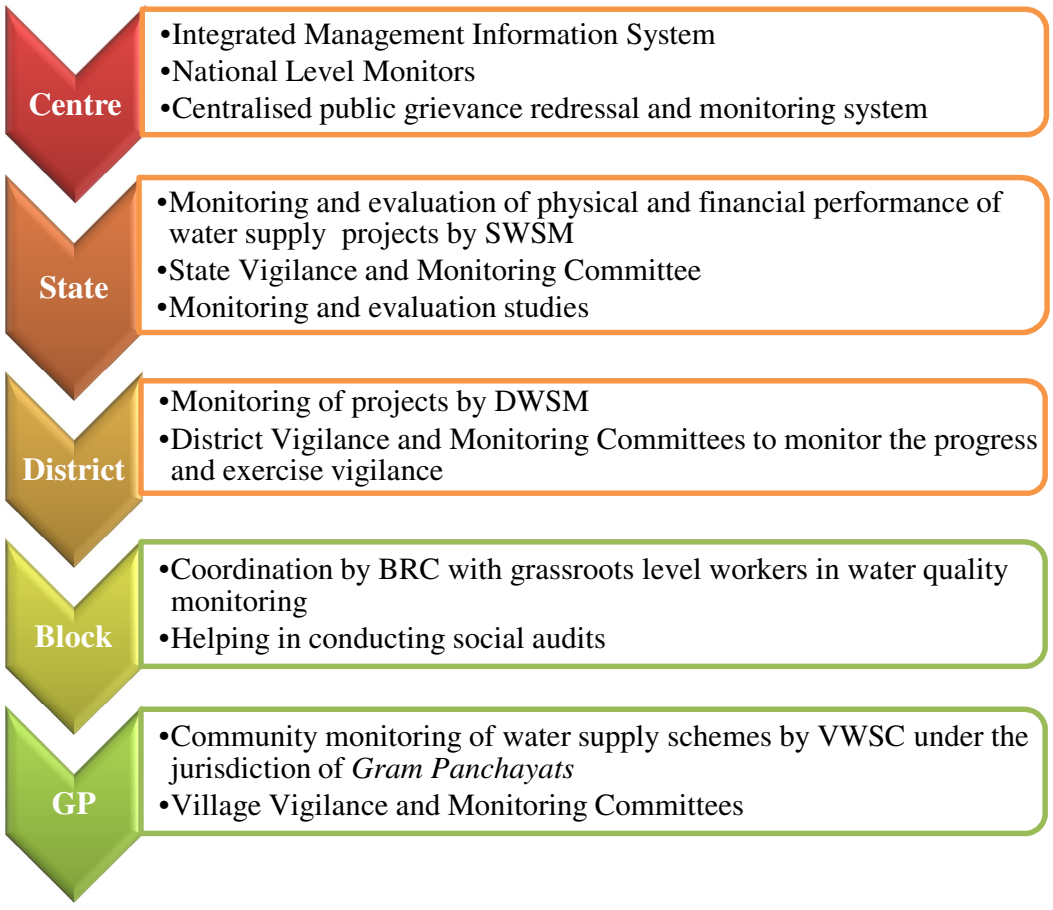
Chapter-V Monitoring and Evaluation

5.1 Introduction

Monitoring and evaluation are essential for ensuring efficient utilisation of programme resources so that the envisaged outputs and outcomes are achieved within the planned timeframes. As government programmes are executed over long time periods and at different levels, it is imperative to have a robust and effective programme monitoring and evaluation system.

The Programme guidelines provide for an elaborate set up for monitoring and evaluation spanning all levels i.e. the National, State and Community levels as given in **Chart-5.1**.

Chart-5.1: Structure of Monitoring and Evaluation



Source: Programme guidelines

5.2 Integrated Management Information System

The Ministry deployed an "Integrated Management Information System (IMIS)" as a web based information system designed to enable authorities at all levels across India to monitor progress of the various components under the Programme including coverage of rural habitations, schools and *anganwadis.* IMIS also aimed at ensuring proper reporting and make implementation transparent as well as facilitate programme planning and monitoring.

The National Informatics Centre (NIC) is the Chief Technical Consultant to the Ministry with respect to functioning of the IMIS. At the Central level, NIC is in-charge of management of the Central database and is responsible for all software development and training. The State level units of NIC assist the SLSSCs in implementing the IMIS project. The State governments were to provide necessary infrastructure support at all levels i.e. sub-division, district and State level. Further, a State IT Nodal Officer was to be identified with responsibility for oversight in respect to regularity and accuracy of the data being furnished by the districts.

The IMIS database was reviewed during audit and the main findings are discussed in subsequent paragraphs.

5.2.1 Lack of support by States

Audit observed that 11 States of **Arunachal Pradesh, Goa, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Nagaland, Odisha, Sikkim, Uttar Pradesh** and **Uttarakhand** did not appoint a State IT Nodal Officer. Further, 12 States viz. **Goa, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Mizoram, Nagaland, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh** and **Uttarakhand** had no mechanism for authentication and validation of data entered in the IMIS. In the absence of nodal officers and systems for data authentication and validation, several instances of discrepancies and inaccuracy in data entered in the system was noticed during audit. Ministry stated (February 2018) that States would be asked to rectify the data inconsistencies.

5.3 Analysis of IMIS Database

The IMIS system is primarily based on data entered across the country at different levels of the implementation hierarchy by users in the States and districts. IMIS data was analysed at the Central level by using data analytics tools[1] on data dump of IMIS[2] furnished by the Ministry to identify inconsistencies and inaccuracies in data along with data trends and outliers. In addition, IMIS data was compared with manual records maintained by authorities at different levels. Audit analysis brought out the following:

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[1] SQL Server and Computer Assisted Audit Tools *viz.* TABLEAU, Excel, etc.

[2] In August 2017, database dump was restored in SQL Server 2012 and relevant tables of the IMIS database were analysed

5.3.1 Data inconsistencies and lack of validation controls

➢ Invalid sanction-years i.e. years prior to the commencement of the scheme and beyond current year 2017-18 were entered under 'Sanction Year' in the case of 6,494 schemes. Further, "not known" was recorded against sanction years in case of 1,80,347 schemes. Thus, data against fields critical for monitoring the schemes were either not provided or were inaccurate in a large number of cases reducing the value of IMIS as a monitoring tool.

➢ Out of a total of 71,58,386 schemes, date of completion in the case for 3,27,086 schemes was recorded as dates prior to independence. Out of these 3,27,086 schemes, in 1,02,753 schemes the recorded sanction year was before 2001-02 and in 79,003 schemes it was 2001-02 or later. As such IMIS was permitting entry of completion dates which were prior to the sanction year. In the remaining 1,45,330 schemes, sanction year was recorded as "Not Known". In the case of 244 Schemes, the completion year entered was beyond 31 March 2030.

➢ In the case of 1,055 schemes, though data furnished was as of 31 March 2017, completion dates of schemes recorded was on or after 01 January 2018. Of these, date of commencement was shown between 01 April 2019 and 31 March 2020 in 27 schemes and in 94 schemes date of commencement was shown as beyond 01 April 2025. In the case of 13,16,258 schemes, the date of commencement and the date of completion was shown as being the same which shows absence of proper validation checks in the system. Ministry stated that for spot sources, the system allows the date of commencement and completion to be same as these schemes can be completed within a day. The reply is not acceptable as the cases cited also contained other than 'Spot' Schemes.

➢ For 9,039 schemes, the date of completion was entered as being before the date of commencement which shows incorrect data entries in the system. Ministry stated that the data has to be corrected by the respective State Governments and NIC has now implemented server side validations for data that is being imported through back-end.

➢ Status of water quality in habitation profile data has been shown as safe whereas in source/delivery point report it is shown as not fit for drinking and *vice-versa* (**Bihar** and **Karnataka).**

➢ Instances of inconsistency in IMIS data such as variation in number of water supply sources (Format B-6 and B-28), against expenditure of supply of tankers, physical status was 'nil' (Format C-31), variation in earmarked expenditure on chemical and bacteriological affected habitation during 2015-17 (Format D-1 and D-8A) were noticed and have been detailed in **Annexe-5.1**.

The above-mentioned data inconsistencies indicated a lack of validation controls that allowed incorrect entries to be accepted for fields critical for monitoring progress of schemes and led to generation of incorrect MIS reports.

5.3.2 Discrepancies in data of IMIS with field record

Audit observed that data obtained from field records did not match with the data available in IMIS. These discrepancies were found to exist for important aspects such as number of schemes; number of non-functional schemes; quality affected habitations; availability of community water purifying plants and water testing laboratories. Examples of inconsistent data for different States are given **in Annexe-5.2.**

Bihar

- In district Bhabua, out of two schemes covering 17 Fluoride affected habitations sanctioned during 2012-17, only one scheme covering two habitations was completed but IMIS data showed 34 habitations as being covered. Further, as per IMIS data, there was no habitation/population under Iron contamination in the district but data obtained in the field showed that 239 water sources were affected with Iron contamination.
- In district Saran, 85 sources were affected with contamination during 2012-17. During 2013-14, bacteriological contamination was found in six sources. However, as per IMIS data, there was no habitation/population under any contamination in the district.
- In district Muzaffarpur, 201 water sources were affected during 2012-17 from iron contamination. However, as per IMIS data, there was no habitation/population under Iron or any other contamination in the district.
- In district Nawada, three schemes for covering 113 fluoride affected habitations were sanctioned during 2012-17 of which one scheme covering two habitations had been completed. However as per IMIS data, 32 habitations were shown as having been covered. Further, as per data made available by the concerned Division, 272 habitations were affected from Fluoride contamination during 2012-17. However, as per IMIS data, only 96 habitations were reported to have Fluoride contamination.
- In district Samastipur, as per IMIS data, five habitations were affected from Fluoride contamination as on 1 April 2012 and no habitation shown as fluoride contaminated as on 31 May 2017 despite the fact that no scheme was sanctioned and executed to remove Fluoride contamination in ground water. As per data made available by the division, out of 15,549 sources, 2,825 sources were iron affected, four sources were nitrate affected and 812 sources were Arsenic affected during 2012-17. However, IMIS data showed 186 habitations with arsenic contamination.

Gujarat

In 10 selected districts, 10,913 samples (14 *per cent*), out of 77,064 samples tested in water testing laboratories during 2015-17 were found unfit for drinking due to presence of fluoride, nitrate, alkalinity, hardness, etc. However, these reports were not entered in IMIS.

5.4 Evaluation studies

Evaluation of impact of implementation of any programme is necessary for making mid-course corrections and for drawing lessons for reformulating guidelines and implementation strategies. Programme guidelines for NRDWP envisaged periodic evaluation studies by the Ministry. The State Governments were also required to take up similar monitoring and evaluation studies for which 100 *per cent* financial assistance would be provided by the Ministry.

Audit noted that the Ministry had got five evaluation studies conducted *viz.* (i) Assessment of Functionality of RDWS Scheme in **Bihar** (September–October 2014), (ii) Evaluation of Implementation of WQM&S Programme (August 2014), (iii) Evaluation of Impact of Sustainability Structures Constructed under NRDWP, (iv) Evaluation of Usage and Impact of Using Hydro Geo Morphological (HGM) maps on the Quality of Implementation of RWSS (September 2013), and (v) Status of Rural Water Supply in **Maharashtra** (2015) during 2012-17.

Major findings emerging from these studies included non-formation of Village Water and Sanitation Committees, lack of coverage of schools and *anganwadis*, non-functioning of schemes, low coverage of population with piped water schemes, presence of contaminated ground water, inadequate use of Field Test Kits for water quality testing, lack of sustainability structures, non-use of Hydro Geo Morphological maps for locating suitable site for source sustainable structures and in planning process and low penetration of IEC activities. Each evaluation study incorporated recommendations for addressing shortcomings/deficiencies noticed. With regard to follow up on the evaluations studies the Ministry stated that as these reports were state specific the concerned State Governments were asked to send the action taken reports to this Ministry. However, outcome of action taken on these studies was not monitored.

Audit also noted that the above studies were either issue specific or state specific and no comprehensive evaluation of the Programme had been undertaken by the Ministry covering all the States to assess the impact of NRDWP. Further, none of the selected States except **Odisha** and **Tamil Nadu** had conducted evaluation studies during the period of performance audit.

Report of Quality Council of India

During the period 5 December 2016 to 5 January 2017, Quality Council of India evaluated and assessed the functionality, sustainability, public perception and visual observation of quality water supplied. The survey covered piped water supply schemes completed during 2009 to 2016. The survey included assessment of 4,332 schemes (both single and multi-village) in 5,610 villages of 580 districts in 29 States.

Major findings were:

- 455 schemes (10.5 *per cent*) in 696 villages were not in existence.
- 348 schemes (eight *per cent*) in 526 villages were non-functional.
- In 526 villages where schemes were found non-functional the same was due to failure of infrastructure, pumping system and pipe lines (38 *per cent*) and drying of sources (19 *per cent*).
- 57 *per cent* of surveyed villages did not have sufficient water supply of 50 lpcd or more.
- Out of 4,387 villages where scheme was functional, 782 villages (18 *per cent*) experienced breakdowns of more than 20 days in a year.
- 22 *per cent* of the surveyed villages with functional schemes had less than 2 hours of water supply.

5.5 National Level Monitors

National level monitoring is a comprehensive system of independent monitoring of Programmes evolved by the Ministry of Rural Development. National Level Monitors (NLMs) visit districts to ascertain implementation of Programme and verify the assets created and interact with officials and villagers. As per extant norms, there are to be quarterly round of visits and approximately 150 districts are to be covered in each round so as to cover all the districts in the country in a year. Based on their findings, a report is submitted within a given time frame to the Ministry for follow-up action.

During the period 2012-17, NLMs visited 24,420 villages in 6,995[3] blocks to review the implementation of NRDWP. The reports submitted by the NLMs highlighted issues such as non-availability of safe water sources/insufficient water availability, water sources affected by seasonal variations, poor operation and maintenance of water supply schemes, non-functionality of water sources, poor quality of water supplied in the villages, issues relating to water quality testing and sustainability, water supply

[3] No. of blocks for the first half of 2012-13 were not available

management and non-availability of drinking water in schools and *anganwadis.* It was found that the Ministry did not initiate any action on these reports except seeking compliance of the States based on inter-active workshops of NLMs held during October-November 2014 on which replies of States were awaited.

Ministry stated (February 2018) that earlier NLMs engaged by the Ministry of Rural Development were covering both rural development schemes and schemes being implemented by Ministry/Department of Drinking Water and Sanitation. However, the Ministry was now separately engaging NLMs for over-seeing the implementation of NRDWP and for giving feed back to the Ministry. Specific engagement of NLMs for NRDWP has commenced only from September 2017.

Thus, while visits by NLMs were taking place, the Ministry did not have an established system for examining the reports of NLMs and taking follow up action thereby undermining the purpose and utility of the visits. It has only recently begun specific assignment of inspection of NRDWP to NLMs.

5.6 Grievance Redressal System

A web-based public grievance redressal portal was launched by the Ministry to enable citizens to lodge their grievances on rural water supply. Action taken against each grievance is recorded by the system and displayed. As on 1 September 2017, out of 855 grievances received by the Ministry related to availability and quality of water, 402 grievances were closed after taking action.

Out of 52 grievance cases taken up for examination, it was seen that more than five months were taken in 23 cases (44 *per cent*) to initiate action for resolution of the complaint. Further, no time frame had been fixed for disposal of complaints and as of 25 October 2017, 409 grievances were pending for more than 30 days.

Programme guidelines provided for establishment of Computerised Grievance Redressal System by State governments with financial support from the Ministry. It was found that no such Grievance Redressal Mechanism had been set up in 15 States of **Andhra Pradesh, Arunachal Pradesh, Assam, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim** and **Tamil Nadu**.

Ministry stated (February 2018) that it forwards grievances received to the concerned authority in the States for redressal as the ultimate responsibility for doing so rests with them.

Assam

A grievance redressal system was established at a cost of ₹ 3.11 crore which included cost of operations for a year. The firm after establishing and operating the system for one year, requested (November 2014) WSSO to take over the system. During joint physical verification (16 August 2017) audit found that grievance redressal system was not operational. Director, WSSO stated (August 2017) that system had been non-operational since December 2016 due to lack of staff and discontinuation of internet connectivity by the service provider i.e., BSNL.

5.7 Non-constitution of Team of Experts for Field Inspections at district level

Programme guidelines[4] stipulate that DWSMs shall constitute a team of experts in the district who shall review the implementation in different blocks frequently. Such review shall be held at least once in a quarter. Inspections shall be done to check and ensure that the water quality monitoring and surveillance programme is being implemented in accordance with norms and also that the community has been involved in the analysis of water samples using field test kits.

DWSMs in 23 States viz. **Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Goa, Gujarat, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura, Uttar Pradesh** and **Uttarakhand,** did not constitute any team of experts to check and ensure that the water quality monitoring and surveillance programme was implemented as envisaged in guidelines. In **Chhattisgarh**, though a team of experts was stated to have been constituted in two districts, no record was produced to substantiate the same.

5.8 Failure to undertake required reviews of Programme by SWSM

Programme guidelines stipulate that SWSMs shall conduct a review of the Programme in the districts once in six months. SWSM did not conduct any review of the Programme in 17 States of **Arunachal Pradesh, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Rajasthan, Sikkim, Uttar Pradesh** and **Uttarakhand.**

[4] Para 8 of Annexure-III Framework for Water Quality Monitoring & Surveillance (WQM&S)

In **Andhra Pradesh, Odisha** and **Telangana**, though it was stated that review meetings were held once in six months, minutes of meetings were not prepared. In **Assam**, the periodical review meetings were conducted at State Headquarters with the divisional representatives instead of in districts. In **Tripura,** the SWSM met once instead of twice every year to review the Programme.

5.9 Non-setting up of Vigilance and Monitoring Committee

As per Programme guidelines, Vigilance and Monitoring Committees (VMC) are to be constituted at State, district[5] and village levels to fulfil the objective of ensuring quality of expenditure particularly in the context of large public funds being spent under the Programmes. Members of Parliament and elected public representatives in State Legislatures and *Panchayati Raj* Institutions were expected to play a critical role in the functioning of the committees with respect to implementation of all rural development programmes including NRDWP.

Audit observed that VMCs were neither set up at the State level nor at the village level in 13 States i.e. **Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Maharashtra[6], Manipur[7], Nagaland, Rajasthan, Sikkim** and **Telangana**. In nine States {**Andhra Pradesh** (3)**, Arunachal Pradesh** (3)**, Assam** (3)**, Himachal Pradesh** (2)**, Karnataka** (1)**, Maharashtra** (3)**, Meghalaya** (2)**, Nagaland** (3) and **Sikkim** (1)}**,** district level VMCs were not set up in 21 (out of 53) selected districts.

5.10 Absence of Social Audit

Social audit helps narrow the gap between the perception of the line department's definition of services provided and the beneficiaries' level of satisfaction. Programme guidelines provide for a social audit every six months on a fixed date by community organisations such as GPSWC, VWSC and User Groups to ensure that the works undertaken are as per the specification and funds utilised are in accordance with works undertaken.

Audit observed that social audit of the programme was not being conducted in 23 States of **Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, Tripura** and **Uttar Pradesh.**

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[5] As per the Ministry of Rural Development letter dated 26 July 2016, District Development Coordination and Monitoring Committee (DISHA) has superseded District Vigilance and Monitoring Committee.

[6] Village level VMC not constituted in 33 out of 54 selected GPs.

[7] Department stated that SLVMC is in existence. However, supporting documents were not produced.

5.11 Non-setting up of Monitoring and Investigation Unit

Programme guidelines provide that a special Monitoring Cell and Investigation Unit at the State headquarters be set up with necessary supporting staff. The Monitoring unit shall be responsible for collecting information from the executing agencies, maintenance of the data and timely submission of the prescribed data online to the Central Government by due dates. The unit shall also be responsible for monitoring aspects of quality of water, adequacy of service and other related qualitative aspects of the Programme at the field level.

Audit observed that Monitoring Cell and Investigation Units were not set up in 12 States of **Andhra Pradesh, Arunachal Pradesh, Assam, Himachal Pradesh, Karnataka, Madhya Pradesh, Manipur, Punjab, Sikkim, Tamil Nadu**[8]**, Telangana** and **Uttarakhand**. In **Uttar Pradesh,** the unit was working with one official against the sanctioned post of four.

The absence or inadequate functioning of monitoring committees was indicative of deficient monitoring of the Programme.

5.12 Audit summation

The Integrated Management Information System was the principal tool devised by the Ministry for effective monitoring the Programme. However, the IMIS data was inconsistent and erroneous with mismatch between IMIS data and corresponding manual data. This undermined its utility as a meaningful management tool for realistic monitoring.

Further, institutional mechanisms for effective monitoring and grievance redressal were weak and inadequate at the State, District and village levels. Grievance Redressal Mechanisms were not in place and team of experts were not constituted in several States.

Neither the Ministry nor the States had undertaken a comprehensive evaluation of the Programme during the period covered by Audit. As a result, the impact and outcomes from the Programme remained unassessed.

[8] EDP wing under the control of EDP Manager in TWAD Board was collecting and uploading various data in IMIS.