



**Report of the  
Comptroller and Auditor General of India  
on  
General & Social Sector  
for the year ended March 2018**



लोकहितार्थ सत्यनिष्ठा  
Dedicated to Truth in Public Interest



**Government of Telangana**  
*Report No. 3 of 2020*



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Comptroller and Auditor General of India  
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## Preface

This Report pertaining to the State of Telangana for the year ended March 2018 has been prepared for submission to Governor of Telangana under Article 151 of the Constitution of India for being laid before the Legislature of the State.

This Report contains significant results of the Performance Audit of *Water supply in Hyderabad Agglomeration* besides Compliance Audit of the Departments of the Government of Telangana under the General and Social Sector including Departments of Backward Classes Welfare; Health, Medical & Family Welfare; Municipal Administration & Urban Development; Panchayat Raj & Rural Development; Planning and Youth Advancement, Tourism & Culture.

The instances mentioned in this Report are those which came to notice in the course of test audit during the period 2017-18. The instances which came to notice in earlier years, but could not be reported in the previous Audit Reports have also been included. Further, those instances relating to the period subsequent to 2017-18 have also been included, wherever necessary.

The audit has been conducted in conformity with Auditing Standards issued by Comptroller and Auditor General of India.



# Chapter I

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## Overview

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## 1.1 About this Report

This Report of the Comptroller and Auditor General of India (CAG) contains matters arising from Performance Audit of selected programmes and Departments of Government of Telangana. It also covers Compliance Audit of transactions of its various Departments, Central and State plan schemes and audit of autonomous bodies of the State pertaining to General & Social Sector.

The primary purpose of this Report is to bring to the notice of the State Legislature significant results of audit. Findings of audit are expected to enable the Executive to take corrective action, to frame appropriate policies as well as to issue directives. It will also lead to improved financial management of organisations and contribute to better governance.

Compliance Audit refers to the examination of transactions of audited entities. Compliance Audit is carried out to ascertain whether provisions of the Constitution of India, applicable laws, rules and regulations are complied with. This will also ensure that various orders and instructions issued by competent authorities are being complied with. On the other hand, Performance Audit, besides including Compliance Audit, also examines whether objectives of programme/activity/Department are being achieved economically, efficiently and effectively.

This Chapter explains planning and coverage of audit, Response of Departments and Government to audit findings/observations made during audit of transactions and follow-up action on previous Audit Reports.

## 1.2 Profile of General and Social Sector

A summary of the expenditure incurred by Departments of Government of Telangana falling within General and Social Sector is given below.

**Table-1.1**

(₹ in crore)

| Sl. No.  | Name of the Department | 2015-16          | 2016-17          | 2017-18          |
|----------|------------------------|------------------|------------------|------------------|
| <b>A</b> | <b>General Sector</b>  |                  |                  |                  |
| 1        | Finance and Planning   | 26,251.70        | 40,977.31        | 57,568.37        |
| 2        | General Administration | 553.45           | 677.69           | 652.03           |
| 3        | Home                   | 4,638.29         | 5,176.55         | 5,619.09         |
| 4        | Law                    | 488.17           | 518.46           | 535.45           |
| 5        | Revenue                | 2,316.21         | 2,970.84         | 1,868.95         |
| 6        | State Legislature      | 62.12            | 98.93            | 114.72           |
|          | <b>Total (A)</b>       | <b>34,309.94</b> | <b>50,419.78</b> | <b>66,358.61</b> |

| Sl. No.  | Name of the Department                         | 2015-16          | 2016-17          | 2017-18            |
|----------|--|------------------|------------------|--------------------|
| <b>B</b> | <b>Social Sector</b>                           |                  |                  |                    |
| 1        | Backward Classes Welfare                       | 1,073.98         | 2,831.81         | 2,865.53           |
| 2        | Consumer Affairs, Food and Civil Supplies      | 1,000.13         | 2,089.36         | 1,524.43           |
| 3        | Health, Medical and Family Welfare             | 3,294.76         | 4,872.03         | 4,521.38           |
| 4        | Higher Education                               | 1,684.68         | 1,765.14         | 1,754.79           |
| 5        | Housing  | 2,527.48         | 555.90           | 865.80             |
| 6        | Labour, Employment, Training and Factories     | 516.56           | 490.63           | 586.76             |
| 7        | Minorities Welfare                             | 555.69           | 842.06           | 983.48             |
| 8        | Municipal Administration and Urban Development | 4,813.49         | 3,111.31         | 3,150.57           |
| 9        | Panchayat Raj <sup>s</sup>                     | 6,050.61         | 7,520.66         | 6,685.89           |
| 10       | Rural Development <sup>s</sup>                 | 5,610.97         | 5,988.98         | 5,146.47           |
| 11       | School Education                               | 8,987.31         | 10,568.26        | 10,748.48          |
| 12       | Scheduled Castes Development                   | 2,936.33         | 3,172.43         | 7,624.56           |
| 13       | Tribal Welfare                                 | 2,148.84         | 2,009.48         | 4,895.24           |
| 14       | Women, Children, Disabled and Senior Citizens  | 1,127.86         | 1,204.04         | 1,314.75           |
| 15       | Youth Advancement, Tourism and Culture         | 250.66           | 236.56           | 266.26             |
|          | <b>Total (B)</b>                               | <b>42,579.35</b> | <b>47,258.65</b> | <b>52,934.39</b>   |
|          | <b>Grand Total (A+B)</b>                       | <b>76,889.29</b> | <b>97,678.43</b> | <b>1,19,293.00</b> |

Source: Appropriation Accounts of Government of Telangana for relevant years  
<sup>s</sup>under one Secretariat Department 'Panchayat Raj and Rural Development'

### 1.3 Office of Accountant General (Audit)

Under directions of the CAG, Office of the Accountant General (Audit), Telangana conducts audit of 32 Departments<sup>1</sup> and local bodies/public sector undertakings/autonomous bodies thereunder in the State of Telangana. Out of these, 20 Departments are covered under General & Social Sector Audit.



Offices of the Accountants' General

### 1.4 Authority for audit

Authority for audit by the CAG is derived from Articles 149 and 151 of the Constitution of India and CAG's (Duties, Powers and Conditions of Service) Act, 1971 (DPC Act). The CAG audits General & Social Sector Departments of the Government as follows:

- **Audit of expenditure** under Section 13<sup>2</sup> of the DPC Act.
- As **sole auditor** in respect of **autonomous bodies** which are audited under

<sup>1</sup> including those pertaining to Economic Sector, Revenue Sector and Public Sector Undertakings

<sup>2</sup> Audit of (i) all transactions from Consolidated Fund of State (ii) all transactions relating to Contingency Fund and Public Account and (iii) all trading, manufacturing, profit & loss accounts, balance sheets and other subsidiary accounts kept in any Department of a State

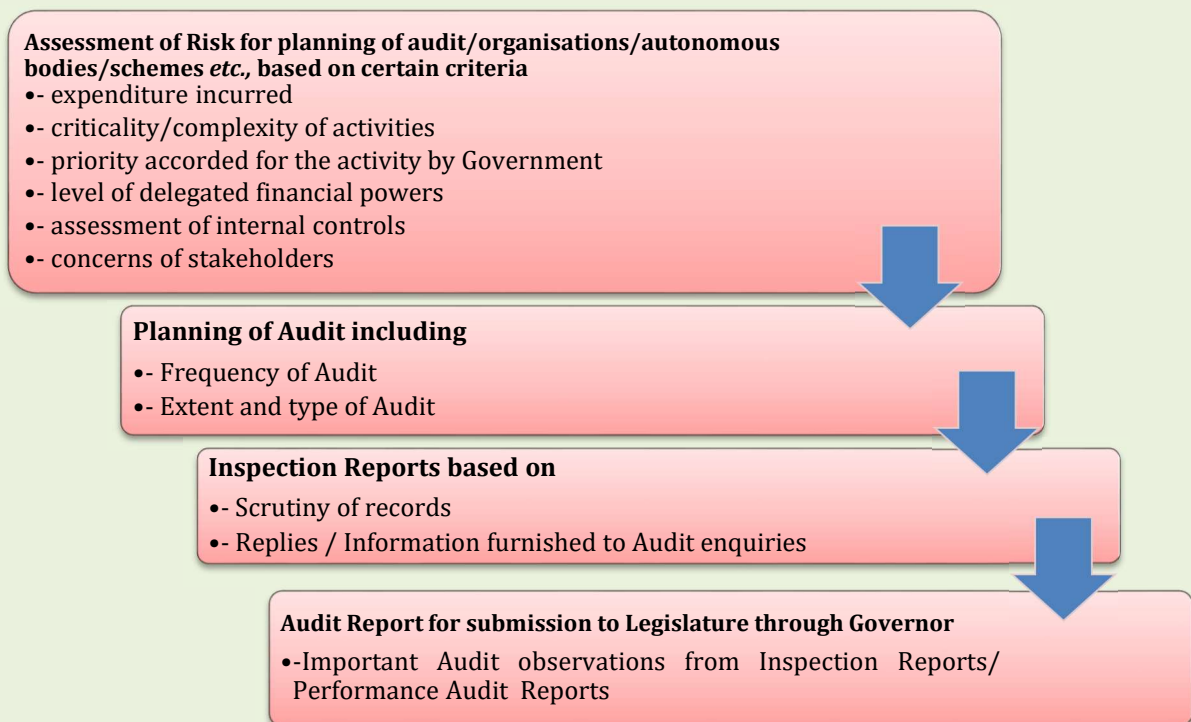
Sections 19(2)<sup>3</sup> and 20(1)<sup>4</sup> of the DPC Act.

- **Local bodies** which are audited under Section 20(1) of the DPC Act.
- In addition, CAG also conducts audit under Section 14<sup>5</sup> of the DPC Act, of **other autonomous bodies** which are **substantially funded** by the Government.

Principles and methodologies for various audits are prescribed in Auditing Standards and Regulations on Audit and Accounts, 2007 issued by the CAG.

## 1.5 Planning and Conduct of audit

The following flowchart depicts the process of planning and conduct of audit:



After completion of audit of each unit, Inspection Report (IR) containing audit findings is issued to head of the unit with a request to furnish replies within one month of receipt of IR. Whenever replies are received, audit findings are either settled or further action for compliance is advised. Significant audit observations pointed out in these IRs, which require attention at the highest level in Government, are processed for inclusion in Audit Reports. These Audit Reports are submitted to the Governor of Telangana under Article 151 of the Constitution of India for causing them to be laid on the Table of State Legislature.

<sup>3</sup> Audit of accounts of Corporations (not being Companies) established by or under law made by State Legislature in accordance with provisions of the respective legislations

<sup>4</sup> Audit of accounts of any body or authority on request of Governor, on such terms and conditions as may be agreed upon between CAG and Government

<sup>5</sup> Audit of all (i) receipts and expenditure of a body/authority substantially financed by grants or loans from Consolidated Fund of State and (ii) all receipts and expenditure of any body or authority where grants or loans to such body or authority from Consolidated Fund of State in a financial year is not less than ₹one crore

## 1.6 Response of Departments to audit findings

### 1.6.1 Response to previous Inspection Reports

Heads of Offices and next higher authorities are required to respond to observations contained in IRs and take appropriate corrective action. Audit observations communicated in IRs are also discussed in meetings at district/State levels by officers of the Accountant General's office with officers of the concerned Departments.

As of 30 September 2018, 595 IRs containing 8,187 paragraphs pertaining to previous years were pending settlement as detailed below. Of these, first replies have not been received in respect of 230 IRs (3,341 paragraphs). Department-wise details are given in *Appendix-1.1*.

**Table-1.2**

| Year                    | Number of IRs/Paragraphs pending settlement as of 30 September 2018 |              | IRs/Paragraphs where even first replies have not been received as of 30 September 2018 |              |
|-------------------------|---|--------------|--|--------------|
|                         | IRs   | Paragraphs   | IRs  | Paragraphs   |
| 2014-15 & earlier years | 144   | 1,829        | 9  | 128          |
| 2015-16                 | 135   | 1,907        | 37   | 629          |
| 2016-17                 | 148   | 2,113        | 72   | 1,017        |
| 2017-18                 | 168   | 2,338        | 112  | 1,567        |
| <b>Total</b>            | <b>595</b>  | <b>8,187</b> | <b>230</b>   | <b>3,341</b> |

Source: Records maintained by the O/o AG(Audit), Telangana

Lack of action on IRs and audit paragraphs is fraught with the risk of perpetuating serious financial irregularities pointed out in these reports. It may also result in dilution of internal controls in the process of governance, inefficient and ineffective delivery of public goods/services, fraud, corruption and loss to public exchequer.

Audit reviewed the outstanding paragraphs pertaining to Health, Medical and Family Welfare (HM&FW) and Municipal Administration and Urban Development (MA&UD) Departments. As at the end of September 2018, 21 IRs (518 paragraphs) pertaining to HM&FW Department and 58 IRs (1,131 paragraphs) pertaining to MA&UD Department were outstanding (refer *Appendix-1.1*). Of these, some serious irregularities commented upon in these IRs which remained unsettled as of 30 September 2018 are tabulated below:

**Table-1.3**

| Sl. No.  | Nature of Irregularities                        | Number of Paragraphs | Amount (₹ in crore) |
|--|---|----------------------|---------------------|
| <b>Health, Medical and Family Welfare Department</b> |   |                      |                     |
| 1  | Non-utilisation/locking up of funds             | 24                   | 2,250.36            |
| 2  | Loss/non-realisation of revenue                 | 9                    | 132.48              |
| 3  | Non-realisation/non-recovery of Government dues | 4                    | 25.00               |
| 4  | Infructuous/unfruitful expenditure              | 6                    | 11.50               |
| 5  | Non-remittance into Government account          | 9                    | 10.94               |
| 6  | Irregular/inadmissible/unauthorised payments    | 14                   | 6.33                |



| Sl. No.  | Nature of Irregularities  | Number of Paragraphs | Amount (₹ in crore) |
|--|---|----------------------|---------------------|
| 7  | Diversion of funds  | 7                    | 5.23                |
| 8  | Excess payments/ Over payments  | 8                    | 3.04                |
| 9  | Excess Expenditure  | 7                    | 2.56                |
| 10   | Avoidable expenditure   | 5                    | 2.31                |
| <b>Total</b>   |   | <b>93</b>            | <b>2,449.75</b>     |
| <b>Municipal Administration and Urban Development Department</b> |   |                      |                     |
| 1  | Loss/non-realisation of revenue   | 36                   | 1,706.94            |
| 2  | Avoidable expenditure   | 43                   | 474.19              |
| 3  | Wasteful expenditure/unfruitful overlay   | 2                    | 224.52              |
| 4  | Undue benefit   | 8                    | 141.17              |
| 5  | Infructuous/unfruitful expenditure  | 10                   | 88.29               |
| 6  | Excess expenditure  | 25                   | 80.99               |
| 7  | Non-recovery/short recovery towards cost of materials/sales tax/seigniorage charges/security deposits/penalties | 17                   | 64.90               |
| 8  | Diversion of funds  | 16                   | 75.78               |
| 9  | Non-realisation/non-recovery of Government dues   | 7                    | 24.55               |
| 10   | Excess payments   | 14                   | 35.82               |
| <b>Total</b>   |   | <b>178</b>           | <b>2,917.15</b>     |

Source: Records maintained by the O/o AG(Audit), Telangana

## 1.6.2 Response of Government to audit observations

All Departments are required<sup>6</sup> to send their responses to draft audit paragraphs proposed for inclusion in CAG's Report within six weeks of their receipt. During the year 2018-19, two draft Performance Audits and twenty draft Compliance Audit paragraphs were forwarded to the Special Chief Secretaries/Principal Secretaries/Secretaries of the Departments<sup>7</sup> concerned, drawing their attention to the audit findings and requesting them to send their response within six weeks. It was brought to their personal attention that these paragraphs and Performance Audits were likely to be included in the Audit Report of the CAG of India, which would be placed before the State Legislature. Accordingly, it would be desirable to include their comments/responses to the audit findings. Despite this, five Departments<sup>8</sup> did not furnish reply to five draft Compliance Audit paragraphs as on the date of finalisation of this Report. The fact of non-receipt of Government responses was also brought to the notice of the Chief Secretary to the Government in January 2019. The responses of the Government, wherever received, have been appropriately incorporated in the Report.

<sup>6</sup> as per paragraph 4.7 of Finance Department's Handbook of Instructions

<sup>7</sup> Backward Classes Welfare; Environment, Forest, Science & Technology; General Administration; Health, Medical & Family Welfare; Home; Irrigation & Command Area Development; Municipal Administration & Urban Development; Planning; Revenue; Youth Advancement, Tourism & Culture; and Panchayat Raj & Rural Development

<sup>8</sup> Environment, Forest, Science & Technology; General Administration; Health, Medical & Family Welfare; Irrigation & Command Area Development; and Revenue

### 1.6.3 Response of Government to audit paragraphs that featured in earlier Audit Reports

Administrative Departments are required to submit Explanatory Notes on paragraphs and Performance Audit reports included in Audit Reports<sup>9</sup>, within three months of their presentation to State Legislature duly indicating action taken or proposed to be taken. For this purpose, the Departments are not required to wait for any notice or call from Public Accounts Committee. Explanatory Notes<sup>10</sup> were yet to be received from nine Departments<sup>11</sup> in respect of 19 paragraphs/Performance Audit reports that featured in the Audit Reports for the years 2014-15 to 2016-17 as of 30 September 2018. Explanatory Notes were also yet to be received from eight Departments<sup>12</sup> in respect of 17 paragraphs/ Performance Audit reports relating to the period prior to bifurcation<sup>13</sup> as of 30 September 2018. Details are given in *Appendix-1.2*.

### 1.6.4 Response of Government to recommendations of the Public Accounts Committee

Administrative Departments are required to submit Action Taken Notes (ATNs) on recommendations of Public Accounts Committee (PAC) within six months<sup>14</sup> from the date of receipt of recommendations. As of 30 September 2018, one ATN<sup>15</sup> in respect of one Department<sup>16</sup> and eight ATNs<sup>17</sup> in respect of four Departments<sup>18</sup> were yet to be received. Details are given in *Appendix-1.3*.

## 1.7 Significant audit observations

This Report contains findings of audit from a test-check of accounts and transactions of six Departments<sup>19</sup> of Government of Telangana during 2017-18.

One Performance Audit report *Water Supply in Hyderabad Agglomeration* concerning Municipal Administration and Urban Development Department and fourteen Compliance Audit paragraphs have been included in this Report.

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<sup>9</sup> as per instructions issued by Finance and Planning Department vide U.O.No.23810-c/200/PAC/93-2 dated 03 November 1993

<sup>10</sup> with regard to the issues exclusively pertaining to the State of Telangana

<sup>11</sup> Women, Children, Disabled & Senior Citizens; Health, Medical & Family Welfare; Higher Education; Home; Information Technology, Electronics & Communications; Municipal Administration & Urban Development; Revenue; School Education; and Youth Advancement, Tourism & Culture

<sup>12</sup> Women, Children, Disabled & Senior Citizens; Finance; Health, Medical & Family Welfare; Home; Minority Welfare; Panchayat Raj & Rural Development; Tribal Welfare; and Youth Advancement, Tourism & Culture

<sup>13</sup> of the erstwhile State of Andhra Pradesh (i.e., those featured in Audit Reports for the years 2009-10 to 2013-14)

<sup>14</sup> as per instructions issued by Finance and Planning Department vide U.O.No. 1576-A/32/PAC/95 dated 17 May 1995

<sup>15</sup> with regard to the issues exclusively pertaining to the State of Telangana

<sup>16</sup> Health, Medical & Family Welfare

<sup>17</sup> of the erstwhile State of Andhra Pradesh

<sup>18</sup> Backward Classes Welfare; Health, Medical & Family Welfare; Labour, Employment, Training & Factories; and Panchayat Raj & Rural Development

<sup>19</sup> Backward Classes Welfare; Health, Medical & Family Welfare; Municipal Administration & Urban Development; Panchayat Raj & Rural Development; Planning; and Youth Advancement, Tourism & Culture

# Chapter II

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## **Performance Audit**

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**Municipal Administration and Urban Development Department  
Hyderabad Metropolitan Water Supply and Sewerage Board (HMWS&SB)**

**2.1 Water Supply in Hyderabad Agglomeration**

**Executive Summary**

Hyderabad Metropolitan Water Supply and Sewerage Board (Board) is responsible for supply of 150 litres per capita per day (lpcd) of potable water in its jurisdiction covering a population of 69.93 lakh. The Performance Audit of the Board was conducted (during March to August 2018), covering the period 2013-18. The audit objectives were to seek an assurance as to whether the Board could supply water as mandated, towards which it planned, raised resources and implemented water supply system projects.

*(Paragraphs 2.1.1 & 2.1.5)*

**Financial Management**

Annual Accounts of the Board were in arrears. Board has not submitted the Annual Accounts for the period from 2013-17 to Government for approval. Annual Accounts for the years 2010-13 though submitted to Government were not approved by it.

*(Paragraph 2.1.7.1)*

In order to augment the financial resources of the Board, Government had directed Greater Hyderabad Municipal Corporation (GHMC) (July 2009) to transfer 25 per cent (later reduced to 15 per cent in November 2015) of the collection of water tax levied by GHMC as part of property tax to the Board. It was, however, noted that a sum of ₹761.96 crore was due from GHMC to the Board on this account as of March 2017.

*(Paragraph 2.1.7.4)*

The Board was financially weakened due to increasing operational costs (40 per cent during 2013-17) and inability to collect water dues (accumulated revenue arrears of ₹1,209.86 crore as of March 2018). The accumulated loss (March 2017) was ₹967 crore. Government decisions led to stagnant water tariffs in respect of domestic consumers constituting 93 per cent (as of March 2018) of the consumers and waiver of water cess dues to some domestic consumers without any compensation to the Board. The Government also directed the Board to rely on uneconomical sources of water and supply water to areas outside its jurisdiction. Thus, the Board ceded its financial and operational autonomy to the Government.

*(Paragraphs 2.1.7.2 & 2.1.7.6)*

**Planning and Execution of projects to meet expected outcomes**

Board had planned additional capacities without considering the existing capacities accurately.

*(Paragraph 2.1.8.1)*

There were deviations from the specifications laid down by Central Public Health and Environmental Engineering Organisation (CPHEEO) Manual<sup>1</sup> in planning and execution of the projects which impacted achievement of project deliverables.

*(Paragraph 2.1.9.3)*

#### ***Accounting of water in Transmission and Distribution***

Supervisory Control and Data Acquisition (SCADA) system was not installed at all water sources and hence exact quantity of water lifted for supply to HMWS&SB area could not be measured as a whole. No reliable mechanism was in place to record the water supply during transmission and distribution phases.

*(Paragraph 2.1.8.2)*

Losses on account of Unaccounted For Water (UFW) increased by 29 *per cent* from 134.57 Million Gallons per Day (MGD) in 2014-15 to 172.95 MGD in 2017-18.

*(Paragraph 2.1.8.3)*

Nearly 82 *per cent* of the Consumer Account Numbers (CANs) sanctioned did not have any measuring devices installed or were not in working condition.

*(Paragraph 2.1.8.4)*

#### ***Supply of mandated quantity of water***

Board was unable to supply the mandated quantity of 150 lpcd of water in its jurisdiction. The net per capita water available for supply (118 lpcd) was less than the required 150 lpcd mainly due to high (39 *per cent*) water losses. The water actually supplied ranged between 66 to 71 lpcd.

*(Paragraph 2.1.8.5)*

Water supply involves prioritisation of projects to strengthen the network and effective planning and implementation of the projects, requiring compliance to procedures and accurate monitoring. We found instances of deviations in planning and execution of projects.

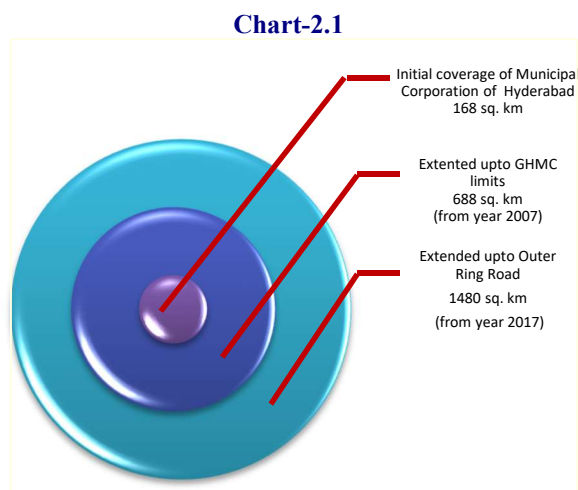
*(Paragraphs 2.1.9.1 to 2.1.9.5)*

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<sup>1</sup>Though water supply and sanitation is a State subject, CPHEEO acts as an Advisory body at Central level to advise the concerned State agencies and Urban Local Bodies (ULBs) in implementation, operation & maintenance of urban water supply, sanitation and solid waste management projects and helps to adopt latest technologies in these sub sectors. Its manual on Water Supply and Treatment, 1999 (Manual) provides guidelines to the Public Health Engineering Departments, Water Boards and Municipal Bodies on the basic norms, standards and latest developments in this field

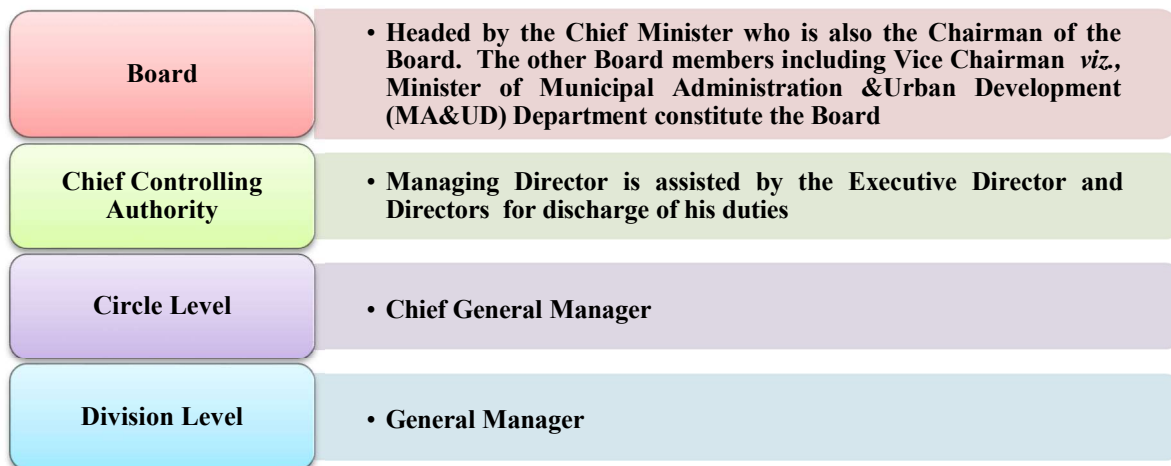
### 2.1.1 Introduction

Hyderabad Metropolitan Water Supply and Sewerage Board (Board<sup>2</sup>) is responsible for supply of potable<sup>3</sup> water to a population of 69.93 lakh<sup>4</sup> in Greater Hyderabad Municipal Corporation (GHMC) limits. For achieving this deliverable HMWS&SB is responsible for planning, design, construction, operation and maintenance of water supply system. *Chart-2.1* illustrates the growth in the area served by the Board. From the initial coverage of 168 sq.km area within the limits of Municipal Corporation of Hyderabad, its reach has extended to GHMC limits and further extended to villages falling within Outer Ring Road (ORR) to the extent of 1,480 sq.km. The Board drew (March 2018) 446 Million Gallons per Day<sup>5</sup> (MGD) of water from eight sources (out of ten available sources<sup>6</sup>) to meet its mandate.



### 2.1.2 Organisational Set up

The Organisational set up of the Board is as depicted below.



<sup>2</sup> established under Act 15 of 1989

<sup>3</sup> Water to be supplied for public use must be potable i.e., satisfactory for drinking purposes from the standpoint of its chemical, physical and biological characteristics

<sup>4</sup> As per 2011 census

<sup>5</sup> Osmansagar (3 MGD), Manjeera Phase I (14 MGD), Manjeera Phase II (18 MGD), Singur Phase III (17 MGD), Krishna Drinking Water Supply Project (KDWSP) Phase I (90 MGD), KDWSP Phase II (82 MGD), KDWSP Phase III (82 MGD) and Godavari Drinking Water Supply Project (GDWSP) (140 MGD)

<sup>6</sup> Osmansagar (26 MGD), Himayatsagar (18 MGD), Manjeera Phase I (18 MGD), Manjeera Phase II (36 MGD), Singur Phase III (33 MGD), Singur Phase IV (33 MGD), KDWSP Phase I (90 MGD), KDWSP Phase II (90 MGD), KDWSP Phase III (90 MGD) and GDWSP (172 MGD)

## **Audit Framework**

### **2.1.3 Audit objectives**

Performance Audit of the Board was carried out to seek an assurance that:

- effective financial management was ensured through monitoring and realization of revenue.
- specified quantity and quality of water of 150 litres of water per capita per day (lpcd) was supplied.
- projects including water supply system in Hyderabad Agglomeration are planned, executed and maintained efficiently and effectively to meet the expected outcomes.

### **2.1.4 Audit Criteria**

Following were the audit criteria:

- Hyderabad Metropolitan Water Supply and Sewerage Board Act (Act) governing all the activities related to the functioning of the Board and resolutions adopted in the Board meetings.
- Manuals on (i) Water Supply and Treatment and (ii) Operations and Maintenance (O&M) issued by Central Public Health and Environmental Engineering Organisation (CPHEEO) have been adopted in the absence of State specific Manual.
- National Water Policy, 2012 issued by Ministry of Water Resources, Government of India (GoI).
- AP Financial Code, Public Works 'D' Code.
- Orders issued by State/Central Governments from time to time on water supply.
- Service Level Benchmarks (SLBs) prescribed in Thirteenth Finance Commission guidelines.
- Applicable UN Sustainable Development Goals (SDGs).

### **2.1.5 Audit Scope and Methodology**

Performance Audit of the Board was conducted (March 2018 to August 2018) for the period 2013-18 covering six circles<sup>7</sup> (out of nine) and 21 divisions<sup>8</sup> (out of 36) selected on the basis of statistical sampling<sup>9</sup>. Audit commenced with an Entry Conference held (April 2018) with the Government/Board. Audit also scrutinised relevant records/documents in MA&UD Department, HMWS&SB's Head Office to assess the overall position at the Board. Joint physical verification of sites<sup>10</sup> was conducted (June 2018 to July 2018) with Board's officials. Audit findings were discussed with the Government and other Officers of the Department in Exit Conference on 29 November 2018 and the replies of the Government/Board have been suitably incorporated in the Report.

<sup>7</sup> three Project Construction Circles, one Transmission Circle and two out of five Selected O&M Circles

<sup>8</sup> nine Project Divisions (including Electrical Division), Stores Division, Single Window Cell, Quality Assurance Test (QAT) Division, Quality Control & Vigilance Division, two Transmission Divisions and six selected O&M Divisions

<sup>9</sup> Simple Random Sampling method

<sup>10</sup> Source/drawal points and Storage Reservoirs



## 2.1.6 Acknowledgement

We acknowledge the cooperation and assistance rendered by the officials of the Board during the conduct of the Performance Audit.

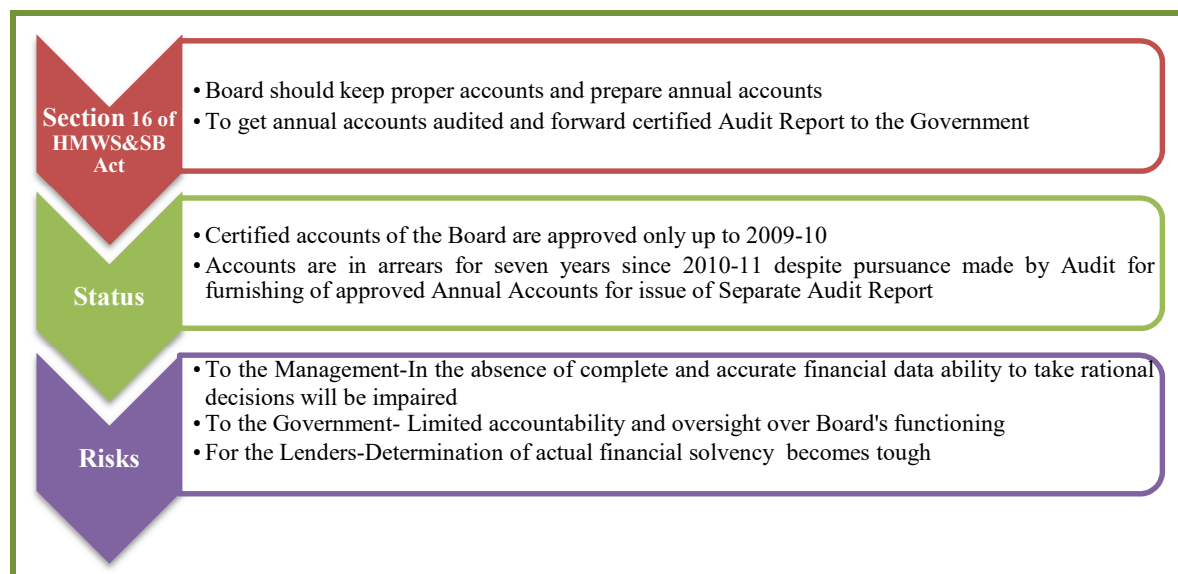
### *Audit findings*

## 2.1.7 Financial Management

### 2.1.7.1 Finalisation of accounts

Finalisation of accounts is essential for ensuring better monitoring and utilisation of available funds. The accounts of the Board were, however, in arrears from 2010-11 onwards (*Chart-2.2*). Board attributed the pendency to shortage of trained staff.

Chart-2.2



This office had brought to the notice of the Administrative Department viz., Principal Secretary to Government, MA&UD repeatedly regarding the pendency in receipt of annual accounts for the period from 2010-11 to 2016-17. Despite this, there has been no action taken by the Administrative Department so far, to ensure finalisation of Accounts by the Board.

Government stated (November 2018) that accounts for the years 2010-17 had been finalised in all aspects. It however accepted the fact that the accounts for the years 2010-11 to 2012-13 were yet to be approved by it and that the accounts for the years 2013-14 to 2016-17 were yet to be submitted by Board for approval. The reply confirms the Audit contention that certification of accounts has so far not been completed for the period from 2010-11 to 2016-17.

***In the absence of certified accounts for the period 2010-17, Board could not accurately assess its financial position.***

***Recommendation 1: Board should prioritise finalisation of the annual accounts on a time bound basis***

### 2.1.7.2 Trends of profitability

State Government stands guarantor for the loans taken from the financial institutions by HMWS&SB for the drinking water projects. For the loans<sup>11</sup> raised by HMWS&SB, Government repays the loan including interest through budgetary support. HMWS&SB generates its own revenue through collection of water cess and water connection charges.

The Board registered excess of expenditure over income of ₹197.93 crore in 2009-10. In the absence of certified accounts for the years subsequent to 2009-10, Audit relied on provisional accounts prepared up to the year 2016-17. Board continuously incurred expenditure in excess of income (average annual increase of 20 per cent) during the period 2013-17. The accumulated losses was ₹966.89 crore as of March 2017.

Analysis of the provisional figures pertaining to the period 2013-14 to 2016-17 showed that:

| Income side   | Expenditure side  |
|---|---|
| <ul style="list-style-type: none"> <li>Income from water cess on an average accounts for 86 per cent of the Board's income and increased by 47 per cent (March 2017)</li> <li>Water cess dues increased from ₹860.77 crore (March 2013) to ₹1,209.86 crore (as of March 2018). This excluded dues amounting to ₹441.46 crore waived off (February 2016) by the Board</li> </ul> | <ul style="list-style-type: none"> <li>Operating expenditure grew by 40 per cent during the period 2013-17</li> <li>Power charges which accounted for 78 per cent of the operating expenditure grew by 45 per cent during 2013-17</li> <li>The total liabilities of the Board was ₹5,977.04 crore (as of March 2017) which was a 69 per cent increase over the year 2013-14</li> <li>A contingent liability of ₹600.69 crore was due to Irrigation Department towards pumping charges for pumping raw water for Krishna Drinking Water Supply Project (KDWSP implemented by the Board) Phase I, II and III during April 2004 to February 2018 (communicated in June 2017 and May 2018)</li> </ul> |

As a result of the continuous losses, the Board had to resort to loans (₹300 crore; from Syndicate Bank in May 2014) and mortgaged its assets (buildings including its Headquarters) to pay its power dues. In such a situation, its ability to invest in maintenance of its transmission and distribution lines was impaired<sup>12</sup>. The waiver of water cess dues to the extent of ₹441.46 crore also significantly impacted the Board's already strained financial position. Board had not revised the tariff in respect of domestic consumers (who constitute 93 per cent of the total consumers) since 2011 which adversely impacted the revenues of the Board.

Government endorsed Board's reply (November 2018) that the excess of expenditure over income was due to increase in power tariffs without corresponding increase of water cess/tariff, increase in salaries to staff and the decision of Government to discontinue supply of water from Singur, Manjeera, Osmansagar and Himayatsagar reservoirs.

<sup>11</sup> State Government permits HMWS&SB to raise loans required for executing water supply projects with Government guarantee and with the financial support of the Government towards repayment of loans. This is given during the time of administrative sanction or during execution

<sup>12</sup> Board did not furnish to Audit, the age-wise analysis of the existing pipelines. During 2013-17, an average of ₹157.10 crore was spent annually on maintenance and repair, which was 21 per cent of the operating expenditure

*The increasing burden of non-collection of dues (₹1,209.86 crore), non-revision of tariff in the domestic category (constituting 93 per cent Consumer Account Numbers) and water cess waiver (₹441.46 crores) led to a consequent inability on the part of the Board to cover even its operational expenditure. This explains the precarious financial position of the board (excess of expenditure over income of ₹966.89 crore).*

***Recommendation 2: Government should devise a sustainable financial model for the Board which should include a sound mechanism for recovery of operating cost***

## Receipts Management

### 2.1.7.3 Collection of water cess

*Section 8 of the HMWS&SB Act has specified the mechanism for provision of sufficient revenues for its working through levy of rates, fees, tariffs, rentals, deposits, contributions and other charges from time to time.*

It was observed that, in some cases, viz., Gram Panchayats (GPs), Rural Water Supply (RWS) divisions, Municipalities, Board was unable<sup>13</sup> to collect the water cess dues from consumers. Water cess dues increased from ₹860.77 crore (March 2013) to ₹1,209.86 crore (March 2018) which further increased to ₹1,350.53 crore as of July 2018. It was observed that the dues were highest in three divisions which supplied water to local bodies. Together, these three divisions accounted for 49 per cent (₹665.18 crore<sup>14</sup>) of the outstanding water cess dues.

Board decided (January 2016), to waive dues (including principal and interest outstanding as on 30 November 2015) amounting to ₹457.75 crore in respect of all consumers<sup>15</sup> falling under the categories of Slum dwellers, Rajiv Gruha Kalpa (RGK<sup>16</sup>) and Domestic<sup>17</sup>. The sanction of waiver by Government (January 2016) was subject to the condition that the consumers would henceforth be prompt in payment of their monthly bills. Accordingly, Board waived off (February 2016) dues to the extent of ₹441.46 crore in respect of 2,89,077 consumers duly excluding domestic connections with more than four flats (Multistoried) and Government connections.

It was observed that, despite the waiver, most of the consumers continued to default in payment of water cess levied as detailed below:

- An amount of ₹119.63 crore, which was levied for the water supplied during November 2015 to July 2018 was still pending recovery from 1,62,636 consumers (56 per cent of 2,89,077).
- Of the 1,62,636 consumers, 45,347 consumers did not make any payment since date of waiver (dues: ₹52.71 crore).

<sup>13</sup> Despite issuing notice to consumers not having metered connections and also levying penalties for non-compliance

<sup>14</sup> Division VIII: ₹224.87 crore; XI: ₹214.71 crore; XXI: ₹225.60 crore

<sup>15</sup> Out of 8,46,872 Consumer Account Numbers (CANs), number of defaulters was 3,12,468 as of November 2015

<sup>16</sup> Low income housing cluster

<sup>17</sup> Independent houses

For complying with the provisions of the Act<sup>18</sup> regarding payment of water bills within 15 days after a bill was presented or served, Board had empowered a dedicated staff through creation of a Vigilance Wing. Non-collection of the water cess levied is a failure of enforcement on the part of the Vigilance Wing during 2013-17.

Government endorsed Board's reply (November 2018) that the Board faced difficulties in disconnecting the connections due to denial of road cutting permissions, depth of water pipelines, traffic issues, socio-political considerations, etc., and assured special attention for recovery of the dues from the above consumers.

***Despite the waiver by Government, consumers continued to default in payment of water cess levied impacting the financial position of the Board. Further, the water cess dues have been showing an increasing trend during the period 2013-18.***

#### **2.1.7.4 Receipt of share from GHMC**

In order to augment the financial resources of the Board, Government directed GHMC (July 2009) to transfer 25 per cent of the collection of water tax (levied by GHMC as part of the property tax) to the Board. Direction of the State Government was perhaps issued without assessing the paying capacity of the GHMC. This was later reduced (November 2015) to 15 per cent.

It was observed that, although an Escrow account<sup>19</sup> was opened (December 2009) by GHMC, only two amounts<sup>20</sup> were transferred to the Board's escrow account. Thereafter, GHMC stopped remitting the amount (though property tax was collected) into the escrow account. An amount of ₹3,973.35 crore<sup>21</sup> was collected as property tax by GHMC during 2013-17. Thus, a sum of ₹761.96 crore constituting 15 per cent of collection of water tax, collected as part of property tax was due<sup>22</sup> from GHMC to the Board on this account as of March 2017<sup>23</sup>.

Government stated (November 2018) that, despite frequent reminders to GHMC for remittance of the due amounts to the extent of ₹761.96 crore, there was no progress.

***The share of the Board of water tax collected as part of property tax by GHMC as per the Government directives was not remitted.***

#### **2.1.7.5 Dues on deposit works**

Operation & Maintenance Divisions of the Board executes Deposit Contribution Works (DCW) for other agencies such as GHMC, etc. These works relate to improvement of water supply & sewerage works.

Audit scrutiny revealed that 1,740 deposit works were executed by the Board on behalf of other agencies at a cost of ₹126.71 crore during 2014-17. Only ₹62.16 crore, however, was received from the funding agencies, representing 49 per cent of the dues, leaving a balance of ₹64.55 crore.

<sup>18</sup> Section 42(1)(b) of the Act

<sup>19</sup> Opened in a public sector bank with standing instructions to the Bank to transfer 15 per cent of property tax collected to the account of HMWS&SB every month.

<sup>20</sup> i.e., ₹25.35 crore (11<sup>th</sup> February 2015) and ₹22.00 lakh (01 April 2016)

<sup>21</sup> 2013-14: ₹879.37 crore; 2014-15: ₹1,036.08 crore; 2015-16: ₹963.64 crore and 2016-17: ₹1,094.26 crore

<sup>22</sup> ₹3,973.35 crore collected; amount due to be remitted: ₹787.53 crore; already remitted ₹25.57 crore; balance amount due ₹761.96 crore

<sup>23</sup> Amount of property tax collected by GHMC for 2017-18 was not available

Government stated (November 2018) that despite frequent reminders issued by the Board to GHMC for remittance of the dues of ₹64.55 crore there has been no progress.

### **Expenditure Management**

An important element of containing losses was to exercise tighter control on the operating expenditure<sup>24</sup>. Operating expenditure of the Board grew by 40 per cent during the period 2013-17. Electricity charges (for pumping water from source points) was ₹751.58 crore in 2016-17 which accounted for 78 per cent of operating expenses. Expenditure on electricity charges increased by 45 per cent during 2013-17 due to commissioning of Krishna Drinking Water Supply Project (KDWSP) Phase III and Godavari Drinking Water Supply Project (GDWSP).

#### **2.1.7.6 Avoidable payment of pumping charges**

Out of 10 available sources, Board was drawing water from eight sources. Drawing of water from two water sources i.e., Himayatsagar and Singur Phase IV with installed capacities of 51 MGD was discontinued since August 2016 and in respect of Osmansagar, there was no drawal during the period from August 2016 to March 2017 and August 2017 (except minimal drawal<sup>25</sup> during April 2017 to July 2017, September 2017 to March 2018) (*Appendix-2.1*). It was noted that there was sufficient water<sup>26</sup> in these reservoirs during the period 2013-18. The water quality reports<sup>27</sup> were also not adverse during the same period.

Water was being drawn from Himayatsagar and Osmansagar by gravity prior to August 2016. On discontinuing the drawal from these two sources to their full potential, the Board had to rely on water pumped from Godavari river, thus incurring avoidable pumping charges<sup>28</sup> of ₹140.95 crore (*Appendix-2.2*)

Government endorsed Board's reply (November 2018) that, the Board intended to supply uninterrupted water from Godavari and Krishna sources (which are designed as permanent sources for drinking water). The water from Singur project, Manjeera Barrage, Osmansagar and Himayatsagar was reserved for meeting contingency needs.

In view of the precarious financial position of the Board, prudence demands that the Board draws water from the most economical source for supply, especially from those sources, where water can be drawn through gravity.

***Decision to discontinue drawing (despite availability of sufficient level and appropriate quality) of water from the most economical source for supply, resulted in Board incurring additional pumping charges of ₹140.95 crore.***

***Recommendation 3: The Board should carry out a review of the power charges to identify cost cutting measures***

<sup>24</sup> Operating expenditure includes expenditure on "Power", "Repairs and maintenance" and "Other expenditure"

<sup>25</sup> 3 to 15 MGD of water was drawn out of its installed capacity of 26 MGD

<sup>26</sup> collated from the certified reports on details of daily water levels at Himayatsagar and Osmansagar Reservoirs

<sup>27</sup> of Quality Assurance Test wing of the Board

<sup>28</sup> Power charges incurred in connection with pumping of water

### 2.1.7.7 Penalties on late payment

It was observed that electricity bills were being paid belatedly for which late payment charges were being levied by the DISCOM<sup>29</sup>. Late payment charges in two drinking water supply projects<sup>30</sup> paid by the Board worked out to ₹138.81 crore<sup>31</sup> during the period 2013-18. Board informed that shortage of funds was the sole reason for belated payments. The Board further added that, DISCOM had been approached for reduction of tariff and waiver of late payment charges.

Government endorsed Board's reply (November 2018) that a formal approval (August 2018) for reduction of power tariff was accorded. The revised rates are, however, yet to be implemented (November 2018).

**Board's precarious financial position caused delay in payment of electricity bills, which resulted in additional financial burden to the Board from late payment charges to DISCOM of ₹138.81 crore.**

### 2.1.8 Supply of water

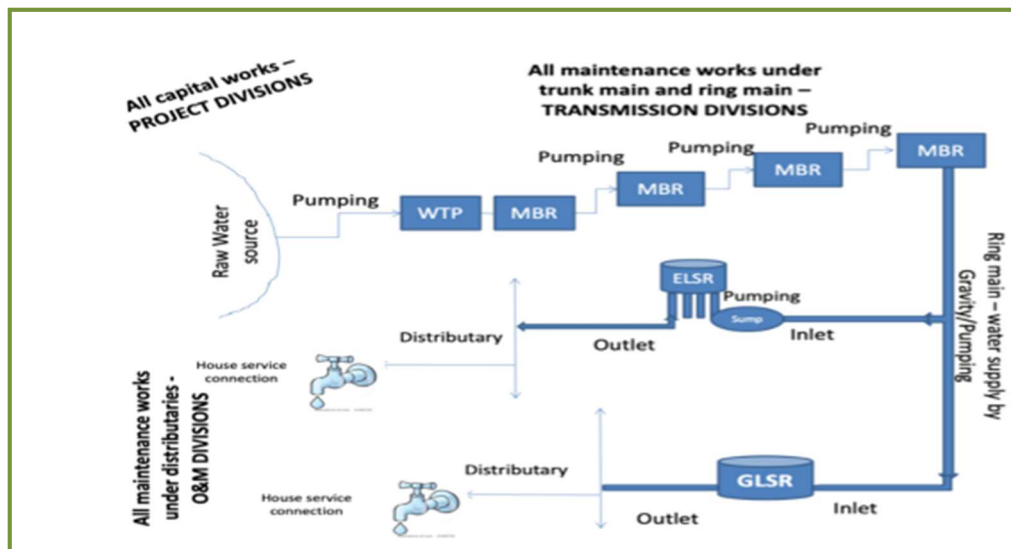
#### Efficient and effective water supply system

Board had installed capacity of 606 MGD (November 2015)<sup>32</sup> for drawal from ten identified water sources<sup>33</sup> to meet domestic and industrial needs. Board had lifted 330 MGD (2013-14), 345 MGD (2014-15), 335 MGD (2015-16), 352 MGD (2016-17), 434 MGD (2017-18) from these sources.

#### 2.1.8.1 Planning and development of storage capacities

The stage-wise detail of pumping of water from the source to distribution at consumer end is indicated in *Chart-2.3* below:

Chart-2.3



<sup>29</sup> Telangana State Southern Power Distribution Corporation Limited (TSSPDCL)

<sup>30</sup> Krishna Drinking Water Supply Project (KDWS) and Godavari Drinking Water Supply Project (GDWS)

<sup>31</sup> KDWS- ₹126.20 crore and GDWS - ₹12.61 crore

<sup>32</sup> GDWS (172 MGD) was commissioned in November 2015

<sup>33</sup> Osmansagar (26 MGD), Himayatsagar (18 MGD), Manjeera Phase I (18 MGD), Manjeera Phase II (36 MGD), Singur Phase III (33 MGD), Singur Phase IV (33 MGD), KDWS Phase I (90 MGD), KDWS Phase II (90 MGD), KDWS Phase III (90 MGD) and GDWS (172 MGD)

Storage reservoirs provide a suitable reserve of treated water with minimum interruptions of supply due to failure of mains, pumps, etc. They also enable meeting the widely fluctuating demands when the supply is by intermediate pumping. They are also helpful in reducing the size of the mains which would otherwise be necessary to meet the peak rates of demand. They can serve as an alternative to partial duplication of an existing feeder main as the load on the main increases. Board had been regulating water supply through Ground-Level Service Reservoirs (GLSRs)<sup>34</sup>, Elevated Level Service Reservoirs (ELSRs)<sup>35</sup> and sumps<sup>36</sup> under the O&M division jurisdiction.

The maximum storage capacity to be planned by the Board for installed capacity of 606 MGD was 202 MG (viz., Storage capacities/reservoir requirement computed as 1/3<sup>rd</sup> of quantity of supply volume).

During 2017-18, Board had a total storage reservoir capacity of 153.14 MG (Core city: 95.82 MG and GHMC peripheral circle: 57.32 MG). As the water supply requirement in peripheral areas was projected to increase, Board felt a need to augment the storage capacity by adopting zoning<sup>37</sup> system in each of the peripheral circles.

DPRs were prepared<sup>38</sup> wherein the available storage capacity in GHMC peripheral area had been reckoned by consultant agency as 27.50 MG, instead of existing 57.32 MG (functional storage as per the Divisional records). The Consultant assessed a requirement of 91.49 MG of storage capacity in respect peripheral areas. The development of additional storage capacities in peripheral areas was computed as 63.99 MG<sup>39</sup>, instead of 34.17 MG<sup>40</sup>.

Government endorsed Board's reply (November 2018) that it had taken up building storage capacities under each hydraulic zone to match the 1/3<sup>rd</sup> of the quantity of water requirement of each zone. Further, depending upon the availability of budget, additional storage reservoirs were being developed to match the nearby prospective and ultimate design periods.

Reply of the Board is not supported by details of functional storage capacities available under each of hydraulic zones along with the quantity of water required for that zone. It was also observed that as against the required storage capacity of 202 MG, Board had planned for 217.13 MG storage<sup>41</sup>.

***Thus, Board had planned additional capacities without considering the existing capacities accurately.***

<sup>34</sup> Ground-Level Service Reservoir (GLSR) is generally preferred as **storage reservoir** which is circular or square or rectangular in shape and is constructed either of RCC or masonry

<sup>35</sup> Elevated Level Service Reservoirs (ELSRs) are used principally as distributing reservoirs.

<sup>36</sup> Sumps are the interim water storage facility available for onward pumping to the Elevated Level Service Reservoirs (ELSRs)

<sup>37</sup> Zoning in the distribution system ensures equalisation of supply of water throughout the area. The Zoning depends upon (a) density of population (b) type of locality (c) topography and (d) facility for isolating for assessment of waste and leak detection. If there is an average elevation difference of 15 to 25 m between zones, then each zone should be served by a separate system

<sup>38</sup> Over a period of time from 2007 to 2015

<sup>39</sup> 91.49 MG-27.50 MG

<sup>40</sup> 91.49 MG-57.32 MG

<sup>41</sup> Core city: 95.82 MG; Existing peripheral area: 57.32 MG; Additional storage capacity planned; 63.99 MG

### 2.1.8.2 Accounting of water in Transmission and Distribution

Water is treated for conversion of raw water to potable water by Water Treatment Plant (WTP) installed at the source points. The CPHEEO O&M manual specifies that flow of water is to be measured for both inlet and outlet pipelines of the Water Treatment Plants and of the intermediary balancing reservoir. This is to be ensured by installation of flow meters and hourly readings shall be recorded for arriving at the exact quantity of water transmitted/supplied. Control of unaccounted for water and metering of the water connections help in reduction of wastage of water and increases the revenue of the Board to the maximum extent. It was observed that:

- SCADA<sup>42</sup> system meant to measure<sup>43</sup> quantity of water lifted, supplied and water losses along the network was found to be inadequate because of incomplete metering and unreliability of data furnished. SCADA system was not installed at all sources<sup>44</sup> and hourly readings of SCADA system installed under KDWSP Phase I, II & III and GDWSP were however not furnished by the Board. During Joint Physical Verification<sup>45</sup>, no measuring devices were in place in one of the Master Balancing Reservoirs (details vide *Appendix 2.3*) and water treatment plants to ensure the exact quantity of water lifted/transmitted. This was also confirmed by the officials of the Board and hence, the exact quantity of water lifted from all sources for supply of water to its area could not be measured accurately.
- Board furnished the computed quantity of water lifted from all sources. The calculation of lifted quantity of water was, however, found to be erroneous as detailed in *Appendix 2.4*
- Board releases water through intermediate storage reservoirs or by direct supplies through transmission feeder. There was no metering for the water released to O&M divisions from transmission mains. The details of quantity of water lifted and released during 2013-18 are provided in *Appendix-2.4*. It can be seen that, quantity of water reported to have been released to O&M division during 2013-18 (except during 2016-17) was more than the quantity of water lifted from the source.

Board claimed (November 2018 in the Exit Conference) to have an information system (SCADA) for measurement of water pumped and transmitted. The data from SCADA was, however, neither reliable (as seen from the Joint Physical Verification) nor complete (as all water sources had not been covered under SCADA).

***SCADA system meant to measure quantity of water lifted and supplied along the network and also measure water losses was found to be inadequate because of incomplete metering and unreliability of data furnished.***

***Recommendation 4: Board may consider installing comprehensive metering system along the chain of pumping, transmission and distribution of water***

<sup>42</sup> Supervisory Control and Data Acquisition (SCADA), a computer system for gathering and analyzing real time data on water supply

<sup>43</sup> The hourly reading of measured flow of water in terms of cubic meter per hour for each of the running pumps were computed by the Board to arrive at daily/monthly quantity of water transmitted through water treatment plant/master balancing reservoirs

<sup>44</sup> SCADA not installed for Osmansagar, Himayatsagar, Manjeera Phase I,II and Singur Phase III, IV

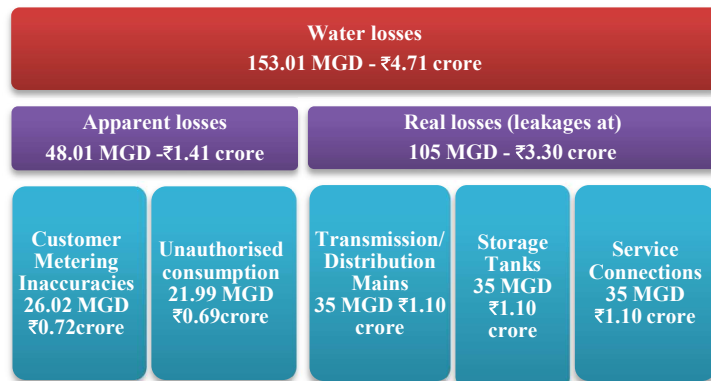
<sup>45</sup> in respect of the entire stretch of pipeline from source point (Murmur village) to Ghanpur (Terminal Balancing Reservoir) in respect of Godavari project and Kodandapur (source point for Krishna project Phases I to III) to Gungal (Terminal Balancing Reservoir)



### 2.1.8.3 Unaccounted For Water

A separate division Unaccounted For Water (UFW) was functional in the Board for accountal of supplied potable water. One of the objectives of the Division was reduction of supply losses to 15 per cent. The CPHEEO Manual also prescribes a permissible loss of 15 per cent. As per the International Water Balance Reports prepared by the Board,

**Chart-2.4**  
(Water losses Units are average of four year period)



Source: International Water Balance Report prepared by the Board for the years 2014-15 to 2017-18

the average water losses per day accounted for 153.01 MGD. Audit calculated the value of unaccounted for water at ₹4.71 crore per day during 2014-18 (Chart-2.4) based on the actual cost of production of water to the Board. Water losses increased by 29 per cent from 134.57 MGD in 2014-15 to 172.95 MGD in 2017-18 calculated by Audit on the basis of information furnished in the International Water Balance Reports. But, the UFW Division reported a static figure for unauthorized consumption (21.99 MGD) and real losses (105 MGD) for the entire period 2014-18 which raises doubts on authenticity of the data.

Government endorsed Board's acceptance (November 2018) that the unaccounted for water was as high as 39 per cent (i.e., 173 MGD out of the 440 MGD). Thus, 39 per cent of water supplied is neither accounted for, nor generates revenue.

**The Objective of UFW division to reduce supply losses to 15 per cent was not achieved as UFW remained high at 39 per cent.**

**Recommendation 5:** There is a need for conduct of Water Audit for computation of water losses by a technically competent third party and adoption of water efficient systems

### 2.1.8.4 Metering of CANs

Water meter is a scientific instrument for accurate measurement of quantity of water distributed to the consumers and fulfils the need to know the quantity of water produced and distributed. As per O&M manual<sup>46</sup> metering of water supply is desirable to minimize the wastage and to maintain the economic pricing of water. Section 51 of the Act entrusted a responsibility on the Board for the provision and maintenance of meters when water was supplied by measurement.

A total of 9,34,973 Consumer Account Numbers (CANs<sup>47</sup>) (out of total 10,28,375 CANs (July 2018)) were sanctioned under Domestic category with 15 mm connection. The average consumption of these was 16.69 Kilo Litres (KL) for the month of July 2018. Scrutiny revealed that, only 1,69,287 CANs were actually metered

<sup>46</sup> Para 1.2.2 of Manual on O&M

<sup>47</sup> Locked: 52,613; Metered: 1,69,287; Repair: 5,18,973; Unmetered: 1,75,399 and No status: 18,701

(where measured quantity of water supplied was accounted for). The remaining 7,65,686 CANs constituting nearly 82 per cent of the CANs did not have measuring devices installed or were not in working condition which contravened the provisions of Section 51 of the Act.

Further analysis revealed that, as of 31st July 2018, water cess dues that were recoverable from the 10,28,375 consumers aggregated to ₹1,350.53 crore. The majority share of dues were from 9,99,356 connections falling under four categories<sup>48</sup>. It was noted that out of 9,55,665 domestic connections, 9,34,973 pertain to 15mm dia size whose dues amounted to ₹266.07 crore (94.77 per cent of dues receivable from all domestic CANs). The following is the status of the 15 mm connections from which dues are pending:

**Table-2.1**

| Sl. No.      | Connection type                 | No. of connections | Percentage of total connections | Total dues (₹ in crore) | Percentage of total dues |
|--------------|---------------------------------|--------------------|---------------------------------|-------------------------|--------------------------|
| 1            | Metered                         | 1,69,287           | 18.11%                          | 13.18                   | 4.95%                    |
| 2            | Unmetered/ under repair/ locked | 7,65,686           | 81.89%                          | 252.89                  | 95.05%                   |
| <b>Total</b> |                                 | <b>9,34,973</b>    | <b>100.00%</b>                  | <b>266.07</b>           | <b>100.00%</b>           |

Source: Information/Data furnished by the Board

It is evident that, CANs whose meters are under repair/ unmetered/ locked default on payment of water cess. Moreover, HMWS&SB clarified that these connections were also charged on the basis of docket average<sup>49</sup> of metered CANs. Thus, there is a possibility of over/short levy as docket average does not represent actual consumption.

Government endorsed Board's reply (November 2018) that the water supply system is not 24x7 and is only intermittent to the extent of one to one and half hours (on the day of supply) as a result of which, the meters frequently go out of order. Audit is unable to accept or comment on the technical correctness of the claim of Government that 24x7 water supply is essential for the water meters to function properly. This aspect needs to be enquired into by a technically qualified third party.

***Eighty two per cent of the CANs were not having any measuring devices installed or were not in working condition which contravened the provisions of Section 51 of the Act.***

48

| Category       | Number of CANs  | Amount of dues (₹ in crore) | % of total dues |
|----------------|-----------------|-----------------------------|-----------------|
| Domestic       | 9,55,665        | 280.76                      | 23.43%          |
| Industrial     | 2,188           | 256.66                      | 21.43%          |
| Commercial     | 41,387          | 131.78                      | 10.99%          |
| Gram Panchayat | 116             | 529.08                      | 44.15%          |
| <b>Total</b>   | <b>9,99,356</b> | <b>1,198.28</b>             | <b>100.00%</b>  |

Source: Information/Data furnished by the Board

<sup>49</sup> docket is a collection of metered and unmetered Consumer Account Numbers (CANs), the number of which is decided by the Board. Where there are more than 5% of the CANs which are being metered in the Docket, the average of these metered CANs is worked out and applied uniformly on the remaining Unmetered/Meter under repairs, etc.

### 2.1.8.5 Supply of mandated quantity of water to citizens

Board is mandated<sup>50</sup> to supply 150 lpcd in its jurisdiction as per CPHEEO manual. Audit analysis<sup>51</sup> of monthly water lifted from source showed that water available for supply to HMWS&SB area ranged from 109.69 lpcd to 118.19 lpcd during 2013-18. Thus, the availability of water itself was less than the mandated 150 lpcd. The actual supply of water (as reflected in the monthly bills) of domestic customers, however, ranged from 66 to 71 lpcd during 2013-18. Details are given in the Table-2.2.

**Table-2.2**

| Sl.No. |   | 2013-14   | 2014-15   | 2015-16   | 2016-17   | 2017-18   |
|--------|---|-----------|-----------|-----------|-----------|-----------|
| 1      | <b>Requirement of water to cater to the population served (MGD)</b>             | 244.87    | 249.77    | 254.77    | 259.86    | 265.06    |
| 2      | <b>Gross average quantity of water lifted (MGD)</b>                             | 330       | 345       | 335       | 352       | 434       |
| 3      | <b>Computed Population*</b>   | 74,21,305 | 75,69,731 | 77,21,126 | 78,75,548 | 80,33,059 |
| 4      | <b>Gross per capita (lpcd) as per water lifted</b>                              | 202.15    | 207.19    | 197.24    | 203.18    | 245.61    |
| 5      | <b>Deductions</b>   |           |           |           |           |           |
|        | (i) Water supplied to enroute villages <sup>5</sup> (lpcd)                      | 7.98      | 8.20      | 7.72      | 14.25     | 35.29     |
|        | (ii) Losses (lpcd) <sup>#</sup>   | 78.84     | 80.80     | 76.92     | 79.24     | 95.79     |
|        | <b>Total deductions (i) + (ii) (lpcd)</b>                                       | 86.82     | 89.00     | 84.64     | 93.49     | 131.08    |
| 6      | <b>Net per capita available for supply to HMWS&amp;SB area (lpcd) [(4)-(5)]</b> | 115.33    | 118.19    | 112.60    | 109.69    | 114.53    |
| 7      | <b>Average Supply to domestic consumers (as per monthly bills) (lpcd)</b>       | 65.66     | 67.89     | 68.78     | 70.45     | 70.72     |

Source: Information/Data furnished by the Board

\* two per cent annual increase of population each year over population as per Census 2011;

<sup>5</sup> includes RWS, GPs, Municipalities and Industries outside HMWS&SB area;

<sup>#</sup> computed based on UFW figures i.e., 39 per cent

The difference between gross availability per capita (based on quantity lifted) and actual supply per domestic connection (based on monthly bills) is due to water losses during transmission and distribution and water supplied beyond the board's jurisdiction and to other consumers.

Government replied (November 2018) that the average supply varied from 120-140 lpcd for domestic categories and that projects were planned to meet the demand, including replacement of age old network in a phased manner. The Board further assured that, it would prioritise customers in its jurisdiction for water supply.

An analysis of the data furnished by the Board revealed that the Board assessed water supply at 120-140 lpcd by using a faulty method. The water losses (which is 39 per cent: Para 2.1.8.3 refers) was added to the water released for distribution and divided by the population to arrive at the water supply.

***Thus, the Board could not meet its commitment of supply of 150 lpcd.***

<sup>50</sup> As contained in Table 2.1 of Section 2.2.8.3 of CPHEEO manual

<sup>51</sup> per capita water supply is based on the per capita water lifted from the source after factoring quantity of water supplied to enroute villages and UFW (39 per cent) and per capita water consumption by domestic category was calculated based on billed quantity during the period 2013-18

### 2.1.8.6 Consumer Grievance Redressal

Any Citizen can register grievance on the board's services through nine channels viz., IVRS/ Phone (Grievance/ Dial your MD programme), Social Media<sup>52</sup>, Board's website, Praja Vani (Weekly grievance redressal forum) and E-mail. Complaints can be on various issues such as water supply, sewerage, pipeline issues, etc. Metro Consumer Care (MCC) is the agency which analyses, categorizes and forwards complaints (from all the sources) to the respective divisions for resolution. On receipt of a complaint, a token number is generated and an SMS is sent to the complainant. This grievance is automatically assigned to the divisional officer concerned by the system. The officer concerned then takes necessary action to resolve the grievance and updates it on the system. A random feedback call depending on the severity of the grievance would be made by MCC.

Audit analysed the data recorded in Metro Consumer Care Database for the years 2013-18. The Board has adopted citizen charter (CC) with specific timelines<sup>53</sup> for resolution of complaints. The following issues in Grievance Redressal were revealed:

#### Tendency of Grievances

The complaints received by the Metro Consumer Care has been increasing year-on-year with complaints for various years being:

Table-2.3

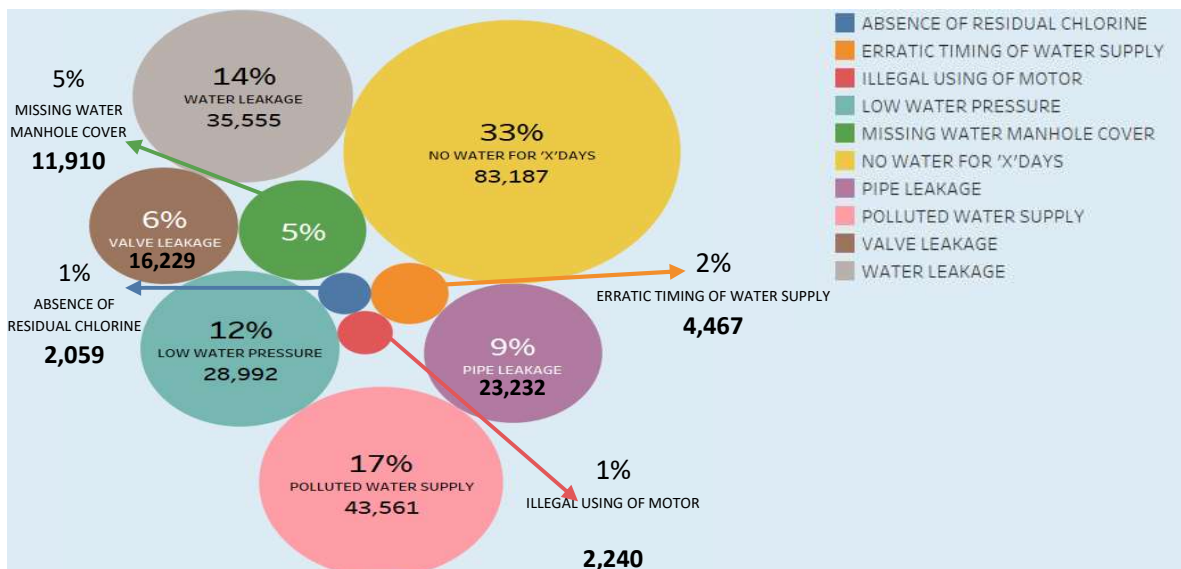
| Year                    | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|-------------------------|---------|---------|---------|---------|---------|
| Complaints filed in MCC | 27,106  | 34,806  | 46,371  | 57,013  | 86,136  |

Source: Information/Data furnished by the Board

Sixteen per cent<sup>54</sup> of the total complaints were only from Division VI (S.R.Nagar) where there were issues of acute water shortage, polluted water supply, water leakages, etc., suggesting that the area needed immediate attention of the board.

#### Major Issues in Water Supply

Chart 2.5



<sup>52</sup> Facebook, WhatsApp, Twitter, Mobile Applications

<sup>53</sup> Category wise time-lin-es (in water supply days): Absence of Residual chlorine (7 days); Erratic timing of water supply (3 days); Illegal using of motor (2 days); Low water pressure (4 days); Missing water manhole cover (2 days); No water for 'x' days (4 days); Pipe Leakage (2 days); Polluted Water Supply (4 days); Valve Leakage (2 Days); Water Leakage (3 days)

<sup>54</sup> 40,229 out of 251,432 complaints

Out of 2,51,432 complaints filed in the period, one-third of the complaints pertained to non-availability of water for certain days. The problem of non-supply of water was profuse especially in Division VI (S.R.Nagar)<sup>55</sup>.

Almost 17 *per cent* of the complaints pertained to polluted water supply. These complaints were most frequent from Divisions V (Narayanaguda), II (Asmangadh), III (Asifnagar) and VI (S.R.Nagar) raising doubts over the quality of water supplied by the board in those areas<sup>56</sup>.

### **Efficiency of Grievance Redressal**

Audit evaluation of the board’s performance in timely resolution of complaints<sup>57</sup> revealed the following:

**Table-2.4**

| Financial Year | Complaints received | Percentage of Complains resolved |             |
|----------------|---------------------|----------------------------------|-------------|
|                |                     | Within time (%)                  | Delayed (%) |
| 2013-14        | 26,195              | 62                               | 38          |
| 2014-15        | 33,424              | 56                               | 44          |
| 2015-16        | 44,507              | 63                               | 37          |
| 2016-17        | 41,418              | 68                               | 32          |
| 2017-18        | 47,810              | 85                               | 15          |
| <b>Total</b>   | <b>1,93,354</b>     | <b>68</b>                        | <b>32</b>   |

Source: Information/Data furnished by the Board

As per Citizen Charter, the board was able to resolve 68% of the complaints within time and 32% of the complaints were resolved with delays.

## **2.1.9 Planning and Execution of projects to meet expected outcomes**

### **Management of projects**

Government sanctioned projects viz., drinking water supply projects and development of storage reservoirs (including distributaries networks) in the Board’s jurisdictional areas. Board implements these projects after planning and preparation of Detailed Project Reports<sup>58</sup>. In order to reach the population in these areas, the Board undertook the following projects detailed in Table-2.5.

<sup>55</sup> 15,602 out of 83,187 complaints pertaining to No water for ‘x’ days

<sup>56</sup> 5953, 5758, 5545, 5187 respectively out of 43,561 complaints pertaining to Polluted Water Supply

<sup>57</sup> Pertaining to major categories of complaints and have effects on quality of water: No Water for ‘x’ days (33%), Polluted Water Supply (17%), Water Leakage (14%), Low Water Pressure (12%) and Absence of Residual Chlorine (impacts water quality)

<sup>58</sup> by consultants

**Table-2.5**

| Name of the Project   | Total cost of the Project (₹ in crore) | Quantity of water to be drawn (in MGD) | Date of commencement | Scheduled date of completion | Date of Commissioning |
|---|--|--|----------------------|------------------------------|-----------------------|
| <b>Drinking water projects</b>  |  |  |                      |                              |                       |
| Krishna Drinking Water Supply Project- Phase-III  | 1,670                                  | 90                                     | December 2012        | December 2014                | April 2015            |
| Godavari Drinking Water Supply Project – Phase-I  | 3,725                                  | 172                                    | November 2008        | November 2010                | November 2015         |
| <b>Distribution network projects</b>  |  |  |                      |                              |                       |
| Comprehensive Water Supply Improvement in Malkajgiri  | 338.54                                 | --                                     | June 2014            | June 2016                    | Under progress        |
| Water supply distribution network project for the peripheral circles of GHMC  | 1,900                                  | --                                     | February 2016        | February 2018                | Under progress        |
| Providing Water supply project for the 190 Villages/Gram panchayats/Habitations falling under outside GHMC limits and within ORR. | 738.26                                 | --                                     | July 2017            | July 2019                    | Under progress        |

*Source: Information/Data furnished by the Board*

It was observed that there were deviations in planning of projects viz., reduction in scope of work, faulty planning and deviation in specifications as enumerated in the succeeding paragraphs:

### **2.1.9.1 Unwarranted reduction in scope: Augmentation**

Works were taken up (November 2008) in three packages for augmentation of 172 MGD of water from Yellampally barrage to Ghanpur village under GDWSP (Phase-I). One of the components under Package-III was construction of 150 ML capacity Master Balancing Reservoir (MBR<sup>59</sup>) at Ghanpur. This component was intended to provide, 150 ML MBR (approximately five hours storage) and also facilitate shut down of pumps to carry out minor repairs in delivery main and pumps in case of any necessity. The work was, however, not taken up and in lieu of this, a 2.7 ML MBR at a cost of ₹8.77 crore was taken up (May 2014) and completed in December 2015.

The change in scope was attributed to the site location of MBR acquired (December 2013) from Forest Department, Hyderabad Division having rocks which were listed<sup>60</sup> as heritage rocks. Board's request (February 2014) to Hyderabad Metropolitan Development Authority (HMDA) for providing clearance/No Objection Certificate<sup>61</sup> was referred (June 2014) to a six-member technical committee<sup>62</sup>. The Committee

<sup>59</sup> intended function of the MBR is to balance the water inflows with those of outflows. From the MBR, water is supplied to Service Reservoirs for onward supply into the distribution system

<sup>60</sup> list at Sl. No. 14(a) i.e., rock formations around Shamirpet lake, Venkateswaragutta in Sy. No. 92 of Ghanpur Village, Medchal (G.O. Ms. No. 68MA of Municipal Administration & Urban Development (I)Dept., dated 3 February 2009)

<sup>61</sup> by stating that, the rocks were only loose boulders situated on the weathered soil subjected to natural erosion in near future

<sup>62</sup> comprising officials of HMDA(4), HMWS&SB and Secretary, Society to Save Rocks

approved<sup>63</sup> (August 2014) the construction of 150 ML reservoir. The Board in the meanwhile had, however, already concluded (May 2014) an agreement scaling down the capacity of the reservoir from 150 ML to 2.7 ML.

Board stated that the decision to construct 2.7 ML MBR was made since construction of 150 ML MBR would take 12 to 18 months. It was, however, noted that, the alternate 2.7 ML reservoir was completed after 19 months. As such the reasons given for the unwarranted reduction in scope was, however, not true.

The reduction of storage capacity from the envisaged 150 ML capacity MBR to 2.7 ML capacity MBR ran the risk of impacting work as follows:

- Retention capacity of the 2.7 ML reservoir allowed only four minutes storage as opposed to the capacity of five hours storage as originally envisaged. In the event of repairs upstream, the ability to serve the population downstream was limited to the extent of 2.7 ML only.
- Potential mismatch between the inflows and the outflows could result in overflow from the reservoir and consequent flooding as the retention capacity of 2.7 ML Ground Level Service Reservoir (GLSR) is capable of storing water for a period of four minutes only.

***The decision of the Board to reduce the storage capacity of MBR without waiting for the clearance from the technical committee was short sighted.***

## **Execution of Projects**

Board awards contracts for implementing the various components of the projects. Deviations such as extension of undue benefit to contractors and deviation in execution was noted as enumerated in the succeeding paragraphs:

### **2.1.9.2 Reduction in scope of work: GDWSP**

One of the components of the work included “execution of intake channel (two parallel open lined intake channels each discharging 13.50 cumecs<sup>64</sup>) from the foreshore of Yellampally barrage with discharge capacity of 27 cumecs including necessary desilting arrangements.

The DPR & Agreement envisaged execution of intake channel with invert level at +131 m level in the river. The Irrigation Department, however, accorded permission to draw water from a higher level of +138 m level which reduced the excavation work related to the intake channel.

As per *corrigendum 5* to the Tender notice which forms part of the contract, if there was any variation in the quantities, corresponding amount should be deducted/paid extra as the case may be. No deductions were, however, made in the detailed price break-up for intake channel, though there was a considerable reduction in quantity of earthwork excavated (4,12,166 cum). Excess payment was made to the firm to the extent of ₹1.78 crore (*Appendix-2.5*).

<sup>63</sup> on the condition that the facade of the reservoir be treated so as to be in harmony with the rock surroundings

<sup>64</sup> Cubic metres per second

Government endorsed Board's reply (November 2018) that it was an Engineering, Procurement and Construction (EPC) contract wherein deliverables for discharge of 27 cumecs is the criteria with technical specifications to develop the channel. As per scope and deliverables of the project, the contracting agency had developed the intake channel with a discharge of 27 cumecs. As such, the payment was not restricted. Board further stated that suitable notices would be issued to the contracting agency as per EPC agreement conditions.

The agreement conditions read with corrigendum, deliverables of the project includes "execution of intake channel at +131 m with discharge capacity of 27 cumecs". Due to development of intake channel at +138 m instead of +131 m there was reduction in earthwork excavation which ultimately benefited the contractor.

### **2.1.9.3 Deviations in Execution**

Under Water Supply Distribution Network Project in Quthbullapur circle, five GLSRs and one ELSR with total capacity of 28.5 ML were taken up which included 6 ML capacity GLSR in Shapur zone.

The following was observed:

- The GLSR at Shapur Zone was constructed with two compartments of 3 ML each. But only one compartment of 3 ML was utilised for distribution for Shapur zone. The other compartment of 3 ML was being utilised to supply to another GLSR at Gajularamaram. This compartment was hence to be treated as balancing reservoir. As a result, storage capacity developed at Quthbullapur was only 25.5 ML and not 28.5 ML. This resulted in non-coverage of a population of 60,000<sup>65</sup> due to short creation of storage capacity to the extent of 3 ML.
- The DPR envisaged 2 ML GLSR at Gajularamaram but the capacity was revised and executed to 3 ML in order to cover surrounding GPs falling within ORR. The GPs falling within ORR were, however, already covered under a different contract<sup>66</sup> which led to irregular planning of storage capacities at Gajularamaram.

Government endorsed (November 2018) Board's view that originally the existing sump was contemplated as source sump (in the premises) to pump water but due to interconnection arrangements between sump and new reservoir, one suction pipe was taken from newly built reservoir (6 ML Shapurnagar Reservoir) through one compartment and assured that in due course as per further demand, a separate sump arrangement would be created.

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<sup>65</sup> Calculated on the basis of 150 lpcd

<sup>66</sup> Providing water supply project for the 190 villages falling outside GHMC limits and within ORR including management of water supply system



#### 2.1.9.4 Re-routing of pipe line: Deposit work

Board (November 2008) undertook a Deposit contribution work of ‘Providing water supply<sup>67</sup> up to Medchal’ with APIIC<sup>68</sup> funds. The work included laying 600 mm dia pipeline of 8,450 rmt<sup>69</sup>.

The following was observed:

- Out of the total length of 8,450 rmt, 8,200 rmt of pipeline was laid. The balance length of 250 rmt was held up for want of permission from HMDA.
- The work was taken up without the approval of HMDA. Board was directed by HMDA (August 2015) to lower the already laid pipeline for a length of 800 rmt to below 2.5 metres ground level or to re-route the pipeline along the service road at junction for a length of 1,300 rmt. Board opted for re-routing the pipeline since the already laid pipeline would not be reusable if uprooted. As a result, the already laid pipeline to the extent of 800 rmt became wasteful. This rendered the expenditure of ₹67.32 lakh incurred on the already laid 800 rmt Bar Wired Stressed Concrete (BWSC) pipeline wasteful.
- The work of re-routing<sup>70</sup> the pipeline was taken up in three packages and completed (October 2017) at a cost of ₹2.23 crore with Board funds. The work of re-routing involved an additional length of 1,050 rmt which resulted in additional expenditure of ₹2.02 crore<sup>71</sup>. Since the lapse was on the part of Board, the additional expenditure was met by Board and not reimbursed by APIIC.

Government endorsed Board’s reply (November 2018) that during the execution of the work, the ORR did not exist and as such the proposed area came under the jurisdiction of National Highways Authority of India (NHAI). The work for a length of 250 rmt was held up for want of permission from HMDA. Subsequently, the Board sought permission and the pipeline was re-routed as DCW work.

#### 2.1.9.5 Avoidable liability on VAT

Board took up (2015-18) construction of Reinforced Cement Concrete (RCC) Service Reservoirs and Distribution network through four contracts (three packages in peripheral and one in ORR). One of the components of the work included manufacture, supply and delivery of ‘Ductile Iron (DI) pressure pipes’ and ‘DI Gate valve’.

Telangana State Revised Standard Data specifies that Value Added Tax (VAT) should not be included in the estimates for bill of quantities (Part A) and separate provision should be made in Part B of the estimates for VAT reimbursement. It was however, observed that the estimates prepared by the Board for Part A included VAT @ 5 per cent. The Board reimbursed VAT @ 5 per cent provided in Part B of the estimate in addition to the VAT included in Part A. Illustration at Table-2.6 clarifies the reimbursement made by the board to the contractor on VAT.

<sup>67</sup> to M/s Shanta Biotechnics Ltd., IDA Medchal and Industrial Establishments along NH-7

<sup>68</sup> Andhra Pradesh (now Telangana) Industrial Infrastructure Corporation

<sup>69</sup> Running metre (rmt)

<sup>70</sup> re-routing done : 1,300 rmt – already included in original plan 250 rmt

<sup>71</sup> ₹2.23 crore – ₹0.21 crore (250 rmt BWSC pipeline @ ₹8,414.50 per rmt)

**Table-2.6**

| Works contract  | (amount in ₹)   |
|---|-----------------|
| Basic price as per estimate                               | 1,000.00        |
| Add: VAT @ 5%   | 50.00           |
| Estimate rate per rmt put to tender/agreed rate           | 1,050.00        |
| After laying of pipeline, value of work done and measured | 1,050.00        |
| Added VAT @ 5% to the value of work done                  | 52.50           |
| Gross payment made to contractor                          | <b>1,102.50</b> |

This resulted in duplication of extension of the benefit of VAT to the contractor by allowing reimbursement (as illustrated in Table-2.6) as per the TS Revised Standard Data and also VAT @ 5 per cent which was included in the estimate for the item rate. Thus inclusion of VAT @ 5 per cent in the estimate by Board resulted in an avoidable committed liability of ₹33.94 crore.

Board accepted that under the contract, levy of VAT on two occasions are done.

It, however, held that the levies: VAT on procurement of materials and another VAT on works contract, were independent and were as per the provisions of the VAT Act, 2005.

Government endorsed Board's reply (November 2018) which is contrary to the Board of Chief Engineers orders which specifies that basic cost of DI pipe and DI valve to be adopted in the estimate is exclusive of VAT as per Standard Data, the provision for VAT @ 5 per cent or as fixed by the Government from time to time should be made separately in Part B of the estimate. This component was already included in the estimate and factored in the contract value.

***Thus, Contractor was given undue double benefit due to addition of the VAT component both in the estimate and on the value of the work done.***

#### **2.1.9.6 Achievement of Sustainable Development Goals**

The UN General Assembly adopted (September 2015) a global development vision called Transforming our World: The 2030 Agenda for Sustainable Development. The Agenda lays out 17 new SDGs and 169 targets to stimulate global action over the next 15 years. State Government designated Planning Department as the nodal department<sup>72</sup> to achieve the ambitious 17 SDGs in Telangana. **SDG 6** pertaining to Clean Water and Sanitation (Access to improved water, Freshwater withdrawal) and **SDG 11** pertaining to Sustainable Cities and Communities (Improved water source, piped) are applicable to the Board.

<sup>72</sup> for building coordination among all the stakeholders from Government and non-Government to bring them on one platform

It was observed that:

- No specific indicators were framed by the Government for adoption of SDGs in achieving universal and equitable access to safe and affordable drinking water for all. Consequently, Board did not set a plan for pollution free water supply.
- Replacement of old/worn out pipes and creation of strong distribution network is essential to prevent leakage and contamination during water supply. Board did not furnish information regarding extent of existing pipelines, age-wise analysis of pipelines, extent of pipelines proposed for replacement, actually replaced and future action plan.

Government in its reply (November 2018) attributed the non-achievement of the SDGs to increased urbanisation resulting in increase in demand for water supply, budgetary constraints hampering the completion of new augmentation source projects.

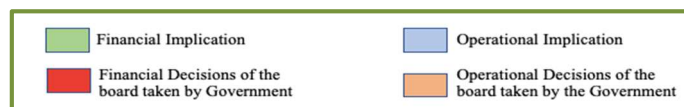
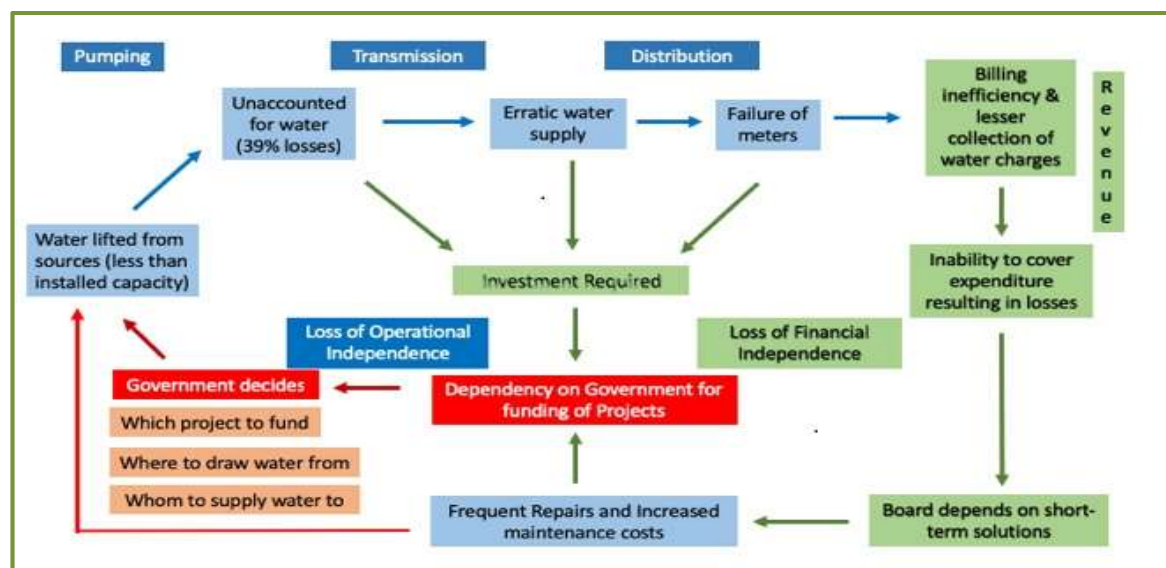
*Government had not framed specific indicators to meet the SDGs.*

**Recommendation 6:** Survey of the existing network including storage capacity and the age-wise analysis of existing pipelines, may be conducted

### 2.1.10 Conclusions

Audit findings has been summarised graphically in the chart below:

Chart-2.6



Board while accepting (November 2018) the audit recommendations assured that the annual accounts would be finalised on priority, comprehensive metering system would be taken up and revenue collections would be improved and focus would be on quality assurance to ensure to supply potable water to all customers and adopt the best practices on project planning and implementation.



# Chapter III

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## **Compliance Audit**

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## Municipal Administration and Urban Development Department

### 3.1 Protection and Conservation of Lakes in Hyderabad Metropolitan Area

Lakes are standing water bodies in natural or constructed valleys bound within embankments that catch rainfall that drains down the land slopes in the catchment areas. Urbanisation, however, has led to a steady reduction in the number and area of the lakes, besides unregulated solid waste dumping has drastically changed their physical and chemical character. There are 3,132 lakes (as of June 2018) spread over seven districts in Hyderabad Metropolitan Area.

*(Paragraph 3.1.1)*

Audit was conducted to assess the impact of State Government's efforts in preservation and conservation of lakes. Audit reviewed the institutional mechanisms in the State for such integration in lake protection.

*(Paragraphs 3.1.1.1 & 3.1.2.2)*

Major findings are as detailed below:

- The work on survey of lakes, their notification was incomplete with only five *per cent* (165) of the lakes being notified as of June 2018, even after lapse of three years after the work was entrusted to the consultant and after incurring an expenditure of ₹12.62 crore as of September 2018. Even though the lakes were notified, the survey numbers of the Full Tank Level (FTL) area and the buffer zone were not notified in the Gazette.
- The list of 3,132 lakes enumerated was not comprehensive and excluded 146 lakes.
- Delays in reconciliation of the survey results with the records of the Irrigation and Revenue Departments led to the delays in final notification. In the lakes that were finally notified and were supported by memoirs of Irrigation Department, it was noticed that the FTL notified was less than that in the memoirs by 120.895 acres.

*(Paragraph 3.1.3)*

- The Lake Protection Committee (LPC) did not have statutory powers to enforce its decisions. Lake Protection Committee could not ensure coordination between multiple agencies and failed to ensure implementation of its decisions which led to continuing pollution and deterioration of lakes.

*(Paragraph 3.1.2.3)*

- Hyderabad Metropolitan Development Authority (HMDA) had submitted an action plan for conservation and beautification of 258 lakes to State Government. Neither approval nor release of funds was received from Government, as a result of which the action plan could not be implemented. HMDA did not spend any amount on conservation/protection of lakes, except an amount of ₹12.62 crore on survey of lakes during last five years i.e., 2013-18.

- State Government accorded administrative sanction to HMDA for development and beautification of 20 lakes with HMDA funds of ₹120 crore. In respect of 11 out of these 20 lakes, there were no pre-feasibility reports. The selection of lakes for development was not based on detailed study. Only two of these 20 lakes were finally notified.
- Although, Greater Hyderabad Municipal Corporation (GHMC) had budgeted ₹287.33 crore during 2014-18 on lakes, it spent only ₹42.14 crore on protection and beautification works, construction of idol immersion ponds for Ganesh festival, Bathukamma festival arrangements, etc.
- State Government, under its Mission Kakatiya (Phase IV), accorded administrative sanction for ₹282.63 crore towards restoration and comprehensive development of 19 urban lakes falling under GHMC area in Hyderabad, Medchal and Rangareddy districts for the year 2018-19. For a downstream lake to be healthy, the water quality of the upstream lake needs to be conserved failing which, the pollution would continue downstream with the inflows. The selection of these lakes based on Assembly constituencies, as per the guidelines of Mission Kakatiya, resulted in selection of lakes without taking into consideration the priority along a chain of lakes.

*(Paragraph 3.1.2.4)*

- In order to identify lakes for availing funding under National Plan for Conservation of Aquatic Eco-systems (NPCA), State Government prioritised 30 lakes for pre-feasibility study from which, DPRs were prepared for 19 lakes with a proposed outlay of ₹310.60 crore. However, it was observed that the proposals were not approved by GoI as of August 2018 due to ambiguity in the rates adopted for DPR, incorrect estimates, etc. Thus the DPRs were forwarded without ensuring accuracy of estimates resulting in their non-approval, so far, by GoI and resultant non-availment of funding under NPCA.

*(Paragraph 3.1.2.5)*

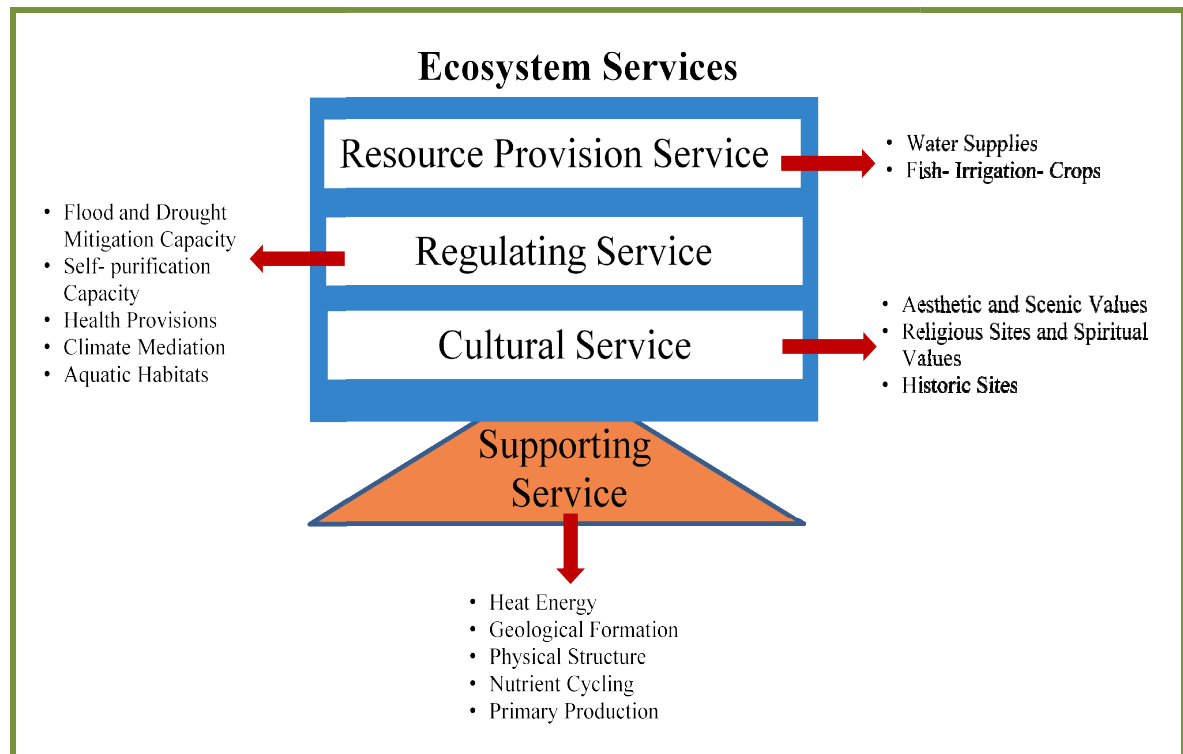
- Continuous encroachments in the catchment, buffer area and the FTL of lakes coupled with inaction on the part of the Revenue Department to remove encroachments resulted in deterioration of lake health and threatened the very existence of the lake.

*(Paragraph 3.1.4.2)*

### **3.1.1 Introduction**

Lakes are standing water bodies in natural or constructed valleys bound within embankments that catch rainfall that drains down the land slopes in the catchment areas. Ecologically, urban lakes play a key role in balancing the local environment (Figure-3.1).





**Figure-3.1: showing the Ecosystem Services provided by an urban lake**

Source: “ILEC 2007 Integrated Lake Basin Management: An Introduction” by International Lake Environment Committee (ILEC) Foundation, Japan

The topography and natural drainage patterns of Hyderabad, located on Deccan Plateau, allowed construction of series of ‘Chain Link Lakes<sup>1</sup>’, locally known as Cheruvus<sup>2</sup>. These water bodies acted as water storage reservoirs for irrigation, drinking and groundwater recharge. Urbanisation has, however, led to a steady reduction in the number and area of the lakes, unregulated solid waste dumping has drastically changed their physical and chemical character. There are 3,132 lakes<sup>3</sup> (as of June 2018) spread over seven districts<sup>4</sup> of State of Telangana.

### 3.1.1.1 Audit Framework

Audit was conducted to assess the impact of State Government’s efforts in preservation and conservation of lakes. The audit criteria include Government orders and Guidelines of National Lake Conservation Plan (NLCP) issued (May 2008) by Government of India (GoI). Audit scrutinised (April-September 2018) records for the period 2014-18 of the Hyderabad Metropolitan Development Authority (HMDA<sup>5</sup>), Greater Hyderabad Municipal Corporation (GHMC<sup>6</sup>), Revenue Department, Irrigation Department, Telangana State Pollution Control Board (TSPCB) and Hyderabad Metropolitan Water Supply and Sewerage Board (HMWS&SB).

<sup>1</sup> Lakes connected by streams/drains where outflow of upstream lake forms inflow for downstream lake

<sup>2</sup> Cheruvu is the local word to signify a lake. Many big lakes were built by the Qutub Shahi rulers (1534-1724 A.D.) and later by the AsafJahi rulers (1724-1948 A.D.) in and around Hyderabad city

<sup>3</sup> Greater Hyderabad Municipal Corporation (GHMC)-185 lakes and Hyderabad Metropolitan Development Authority (HMDA)-2,947 lakes

<sup>4</sup> Hyderabad, Medak, Medchal-Malkajgiri, Rangareddy, Sangareddy, Siddipet and Yadadri-Bhuvanagiri

<sup>5</sup> HMDA: urban planning agency

<sup>6</sup> GHMC: local civic body for Hyderabad city

Out of the 3,132 lakes identified in HMDA, 50 lakes (*Appendix-3.1*) were selected using the stratified random sampling technique based on various key parameters<sup>7</sup> for examination. Audit was, however, hampered due to non-production of records by Irrigation Department, HMDA and GHMC in respect of the selected lakes. Out of the 50 lakes in the audit sample, joint physical verification was conducted for 18 lakes (*Appendix-3.1*) along with Irrigation Department officials. In view of multiple departments that work in the area of lake protection, an Entry Conference was held on 4 May 2018. Exit Conference was conducted on 15 March 2019 to discuss the audit findings with Government/Departments.

In the absence of laid down water policy or a policy for protection and conservation of lakes, Audit relied upon good practices followed across the country in respect of protection and conservation of lakes.

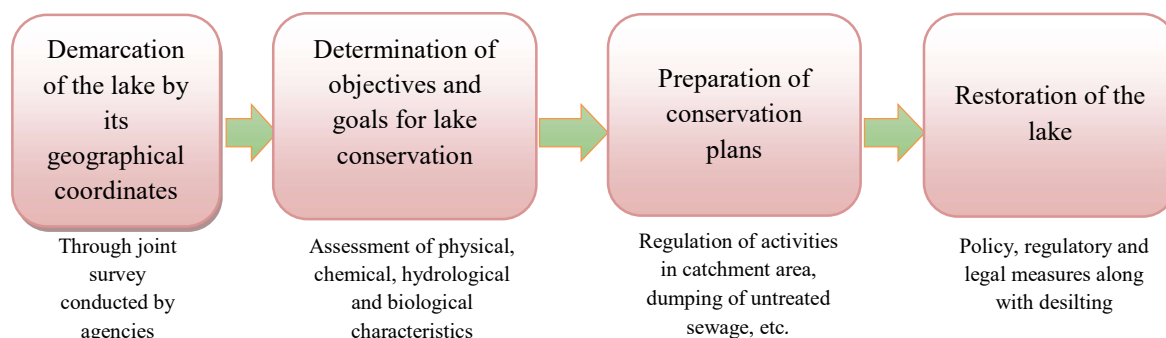
We acknowledge the valuable guidance received from Shri B.V. Subba Rao, Advisor, Centre for Climate Change, Engineering Staff College of India, Hyderabad in audit planning and implementation.

### 3.1.2 Audit Findings

#### 3.1.2.1 Institutional structures: Lack of coordination

The following steps invariably form part of conservation efforts on a lake:

*Chart-3.1: Steps in conservation of a lake*



Source: "Conservation and Management of lakes: an Indian Perspective". Can be accessed at [http://www.moef.nic.in/sites/default/files/nlcp/Lake\\_Conserv-Manage\\_India.pdf](http://www.moef.nic.in/sites/default/files/nlcp/Lake_Conserv-Manage_India.pdf)

#### 3.1.2.2 Multiplicity of agencies

Several State Government Departments/agencies are involved in protection and conservation of lakes (Figure-3.2). The roles and responsibilities of these Departments/agencies are listed in *Appendix-3.2*.

<sup>7</sup> Full Tank Level (FTL) area (refers to the level beyond which a lake cannot retain water any more), Adverse media reports, Pollution levels, Encroachments, Geographical location, Chain of lakes, etc.

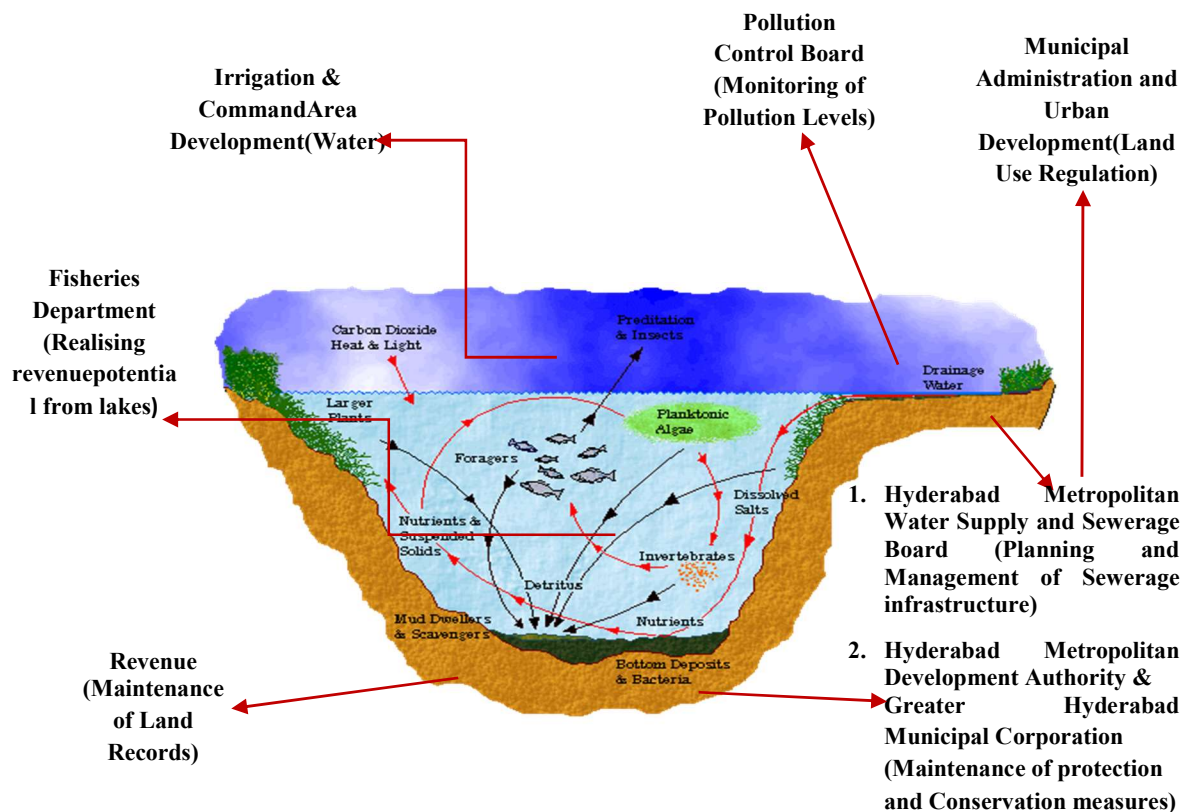


Figure-3.2 : Multiplicity of Departments involved in Conservation and Protection of lakes along with their responsibilities

Ministry of Environment and Forests (MoEF), Government of India (GoI) in its report titled “*Conservation and Management of lakes: an Indian Perspective*” noted that institutional mechanisms are required for coordination between different water agencies and concerned organisations, and for stakeholders participation in conservation and management. The institutional mechanisms in the State for such integration in lake protection were reviewed. Findings are detailed below:

### 3.1.2.3 Lake Protection Committee

#### *Role of Lake Protection Committee*

Taking cognisance of the need for coordination among multiple agencies towards protection of lakes, the erstwhile Hon’ble High Court of State of Andhra Pradesh constituted (April 2010) the Lake Protection Committee (LPC) pending enactment of separate legislation for constitution of Lake Protection Authority (LPA). The 18-member LPC is chaired by Metropolitan Commissioner of HMDA; its members are drawn from all concerned agencies listed at *Appendix-3.3*.

#### *Effectiveness of LPC: 2010-18*

Functioning of the LPC since its formation was examined. The following observations are made that indicate want of commitment to the objective of LPC among its constituent members and the State Government:

- Government order (April 2010) on formation of LPC stipulated that the Chairman (Metropolitan Commissioner, HMDA) would submit periodical reports to

the Government. The order did not mention the essentials of the periodical report such as content, format or periodicity. HMDA confirmed (July 2018) that periodical reports to Government were not submitted.

- The LPC in its first meeting (April 2010) resolved to hold regular meetings on 3<sup>rd</sup> Friday of each month. Accordingly, 101 meetings should have been held till September 2018. LPC, however, did not meet every month as resolved. Only 16 meetings were held till September 2017<sup>8</sup> after which no meetings were held till date (September 2018). Chairman, LPC attributed the non-conduct of regular meetings to pre-occupation of officials of Irrigation and Revenue Departments in implementation of their flagship programmes.
- The LPC was not vested with powers or authority to direct the implementation of its decisions by its constituent members. In 16 meetings spread over eight years, although, LPC took several decisions, it could not ensure timely implementation of those decisions. Table-3.1 detailed status of some of its important decisions and action taken there against:

**Table-3.1: Decisions of LPC not implemented**

| Sl. No. | Decision   | Date of decision | Action & Status  |
|---------|--|------------------|--|
| 1.      | Identifying the debris dumping sites   | March 2012       | No action taken by HMDA. It was observed that debris were being dumped in 13 out of the 18 physically verified lakes (Paragraph 3.1.5 refers)  |
| 2.      | Construction of Full Tank Level (FTL) pillars along with the work of FTL boundary fixation | October 2012     | FTL pillars not fixed even in case of finally notified lakes (Paragraph 3.1.4.2 refers)  |
| 3.      | PCB to assess water quality of all lakes   | October 2012     | Only 19 lakes tested regularly out of the 3,132 lakes  |
| 4.      | Removal of all encroachments from Himayatsagar and Osmansagar lake areas                   | April 2013       | HMDA replied (July 2018) that action would be taken after fixation of FTL pillars on completion of the survey. Survey of the lakes was not completed even after lapse of more than four years from date of agreement with consultant |
| 5.      | Adopt a Lake scheme <sup>9</sup>   | September 2013   | Though, LPC forwarded (June 2014) the proposals to State Government, no action was initiated for introduction of the scheme. LPC also did not pursue the State Government for the approval of its proposals                          |

- GoI advised (February 2012) the State Government to set up LPA to be eligible to receive financial assistance for conservation of polluted/degraded lakes and wet lands under the Scheme “National Plan for Conservation of Aquatic Eco-systems (NPCA)”.

<sup>8</sup> upto 2013-14: 9 meetings; 2014-15: 2 meetings; 2015-16: 3 meetings; 2016-17: 1 meeting and 2017-18: 1 meeting

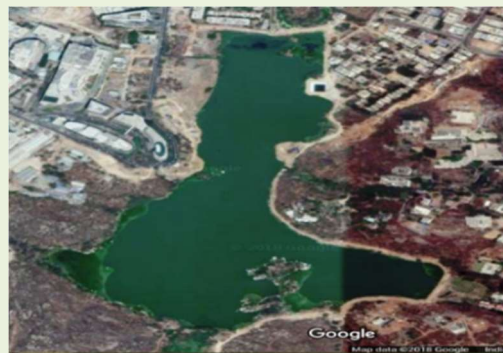
<sup>9</sup> Under the scheme, a lake protection group would be formed with the local Resident Welfare Associations as lead partner and other stakeholder groups like Corporate bodies, NGOs, etc., as secondary partners. The lake protection group would adopt a particular lake which would enable involvement of the local stakeholders in protection and conservation of lakes

Further, Chief Secretary to State Government also instructed (March 2016) Municipal Administration & Urban Development (MA&UD) Department to notify HMDA as LPA for the HMDA area to access funds under NPCA. No action was, however, taken to issue such a notification as of July 2018. The HMDA replied (July 2018) that the action for formation of LPA was pending with the State Government.

- Draft guidelines were forwarded by HMDA (December 2013) to Government assigning roles & responsibilities to various agencies including that of District Collectors (DCs). State Government sought (June 2016) updated information from HMDA. Guidelines could not be approved by Government (September 2018) as HMDA did not furnish the updated information even after a lapse of two years.
- The State Government notified<sup>10</sup> Ameenpur lake as a “Biodiversity Heritage Site” as it had variety of flora and fauna. One of the important aspects of lake protection is to improve habitat for aquatic biodiversity by reducing sullage<sup>11</sup> and non-point sewage<sup>12</sup> impact. The illegal constructions and encroachments around the lake, affecting its bio diversity, was brought to the notice (December 2017) of the HMDA by the Director General, Telangana Special Protection Force who was also the Convenor, Biodiversity Heritage Site Management Committee. Despite this, Metropolitan Commissioner, HMDA (as chairman of LPC) had not taken (as of December 2018) any action to curb illegal constructions and encroachments, even though he is responsible for removal of encroachments in lake FTL and buffer zones as well as all other activities that would be incidental to protection and improvement of lakes and their catchments.

***Case Study 1: Durgam Cheruvu – LPC Decision not adhered to***

Durgam Cheruvu at Raidurg village in Krishna basin, which was a source of water supply to Golconda fort during Qutub Shahi rule, was restored in 1970. It is a part of a chain of lakes. The lake area was covered (April 1986) under the notified Kukatpally Zonal Development Plan.



***Figure-3.3: Durgam Cheruvu Ring Bund (11 October 2018)***

Over a period, buildings came up in and around the lake area, with the layouts being duly approved by Hyderabad Urban Development Authority<sup>13</sup> (HUDA). Three of such approved six layouts were cancelled after the flash floods in 2000<sup>14</sup>. HUDA, however,

<sup>10</sup> G.O.Ms. No. 70, Environment, Forests, Science & Technology (FOR.II) Department dated 15 November 2016

<sup>11</sup> Waste water from household sinks, showers and baths but not waste liquid or excreta from toilets

<sup>12</sup> Non-point sewage occurs due to pollution through many diffused sources like runoffs, precipitation, drainage, seepage, etc.

<sup>13</sup> The jurisdiction of HUDA was increased and renamed as HMDA as per G.O. Ms No. 570 dated 25 August 2008 issued by MA&UD

<sup>14</sup> According to the case study on urban flooding in Hyderabad published by the Global Institute for Research & Education, the property and other losses during the floods in the year 2000 were as follows: Property loss/ Worth- 35,693 homes/₹1.35 crore, Human lives lost-26, Population affected-2 lakh

did not take any decision on cancellation of the remaining three layouts. An area of 156.16 acres had been demarcated as FTL in 2005 by the Irrigation Department. Of this, Revenue Department found (September 2010) that an area of 31.16 acres had been commercially<sup>15</sup> developed.

As per the lake memoir<sup>16</sup>, the bund<sup>17</sup> of the lake was 213 metres. Ring bund<sup>18</sup> was constructed by GHMC around the lake, which reduced the FTL area. A cycling track and walking track at a cost of ₹48 lakh was constructed by a Corporate body in 2017. Though, LPC instructed (September 2013) GHMC to remove the ring bund, the same was not implemented. The reasons for non-implementation of LPC decision was not on record. Construction of permanent structures within the lake, especially in the context of non-finalisation of lake boundaries and encroachments in the FTL and buffer area would result in permanent reduction of FTL area.

*Thus, LPC could not ensure coordination between multiple agencies and failed to ensure implementation of its decisions.*

*More specifically, the lack of coordination had the following impact:*

- *Out of 3,132 lakes identified in Hyderabad, only 165 (GHMC: 48; HMDA: 117) were finally notified to enable identification and removal of encroachments (Para 3.1.3 refers);*
- *No action plans were finalised and implemented to regulate the activities in the FTL areas of all finally notified lakes;*
- *Encroachments continued in the lakes (Para 3.1.4.2 refers).*

### ***Corrections to Master Plan without ascertaining FTL of Lakes***

As per provisions of HMDA Act, 2008, HMDA is mandated with planning, coordinating, supervising, promoting and securing planned development of the Hyderabad Metropolitan Region. Any change in land use is only permissible after the finalisation of the Master Plan. The Master Plan (although finalised in 2013) did not factor in the actual extent of the lakes. In the absence of survey and finalisation of FTL area of lakes, HMDA stated that corrections on land use were made in the Master Plan. It would however, be improper to change the land use without ascertaining the FTL of the lake. In this context, it was observed that layouts which were earlier approved by HUDA were cancelled after flash floods as part of the layouts had encroached into FTL (*Case study 1 refers*).

### ***Role of Stakeholders in lake protection***

The erstwhile State of unified Andhra Pradesh evolved a State Water Policy (February 2009) for effective participation of users by way of mandatory development and management of water resources with involvement of primary stakeholders. Any

<sup>15</sup> 222 residential and commercial structures were identified (June 2012) in the FTL area

<sup>16</sup> A memoir of a lake is a historical document detailing the geographical and hydrological particulars of the lake

<sup>17</sup> Bund is a manmade earthen embankment of a tank which can be natural water retaining storage like lakes, ponds are artificially constructed water storage structures like dams

<sup>18</sup> A ring bund is a bund which runs around the entire perimeter of the lake. It is a way to combat floods and is usually built in localised areas which have great danger potential and yet it is not economically feasible to have basin protection

evidence about its adoption by State of Telangana subsequent to its formation (June 2014) was, however, not furnished by the Government.

While lake protection suffered due to lack of coordination between multiple agencies, there was no effort by the LPC or the State Government to include an important stakeholder in the activity i.e., the citizen. In respect of urban lakes, such stakeholders would be fishermen and residents of areas around the lake. Evidence of user groups being involved in the conservation of lakes by HMDA/GHMC was not found.

***Case Study 2: Assignment of lake to private agencies without guidelines leading to legal dispute***

LPC decided (March 2011) to consider giving lakes for adoption to Corporate/Private Sector for development and maintenance. Although, HMDA forwarded (June 2014) these proposals to State Government, no action was initiated for introduction of the scheme. LPC also did not pursue the State Government for the approval of its proposals.

Meanwhile, a private Corporate approached (August 2017) the Government expressing interest to adopt two lakes, i.e., Nallagandla lake and Malkam Cheruvu under Corporate Social Responsibility (CSR). The Corporate body committed funds to the extent of ₹12 crore and ₹10 crore for Nallagandla lake and Malkam Cheruvu respectively. The proposal contained a generic list of activities<sup>19</sup> and was not supported by any detailed plan. The Standing Committee of GHMC, however, approved (March 2018) the proposal of the Corporate body for one lake viz., Malkam Cheruvu. Subsequently, on a Public Interest Litigation (PIL<sup>20</sup>) Hon'ble High Court of Andhra Pradesh and Telangana (High Court) stayed (April 2018) the works within the limits of Malkam Cheruvu, till further orders.

Similarly, development and beautification of Durgam Cheruvu was entrusted to another Corporate group<sup>21</sup>, under CSR.

***As LPC was not vested with powers or authority to direct the implementation of its decisions by its constituent members, it failed to ensure implementation of its decisions. Corrections were made to the Master Plan by HMDA without finalising the actual extent of lakes leading to cancellation of approved layouts post flash floods in 2000. There was no effort by the LPC or the State Government to include an important stakeholder in the activity i.e., the citizen. Lake was assigned to private agencies without guidelines leading to legal disputes.***

### **3.1.2.4 Funding streams**

#### ***State Government Funding***

State Government, under its scheme Mission Kakatiya Phase IV, accorded (April 2018) administrative sanction for expenditure of ₹282.63 crore towards restoration and comprehensive development of 19 urban lakes falling under GHMC area in Hyderabad, Medchal and Rangareddy districts for the year 2018-19. There are 26 series of lakes in

<sup>19</sup> cleaning, desilting, formation of cycle tracks, landscaping, construction of grill fence, etc.

<sup>20</sup> alleging that the Corporate was constructing huge structures along with stone walls within the FTL, thereby blocking the inflow and outflow of the lake

<sup>21</sup> M/s K Raheja IT Park (Hyderabad) Ltd

GHMC area, each of which is a part of a set of chain linked lakes. For a downstream lake to be healthy, the water quality of the upstream lake needs to be conserved failing which, the pollution would continue downstream with the inflows. The selection of lakes based on Assembly constituencies, as per the guidelines (March 2015) of Mission Kakatiya, resulted in selection of lakes without taking into consideration the priority along a chain of lakes.

### **Urban Local Body Funding**

An action plan was submitted (November 2013) by HMDA for conservation and beautification of 258 lakes<sup>22</sup> to State Government wherein it proposed funds to the extent of ₹64.50 crore to be met from the budgetary support of HMDA (₹20 crore), GHMC (₹32 crore) and Irrigation Department (₹12.50 crore). Neither approval nor release of funds was received from Government, as a result of which the action plan could not be implemented. HMDA did not spend any amount on conservation/protection of lakes, except an amount of ₹12.62 crore on survey of lakes during last five years i.e., 2013-18.

Further, State Government accorded (June 2018) administrative sanction to HMDA for development and beautification of 20 lakes with HMDA funds of ₹120 crore. It was noticed that, in respect of 11 out of these 20 lakes, there were no pre-feasibility reports<sup>23</sup>. It was also observed that the lakes were selected without considering the priority along the chain of lakes. This indicates that the selection of lakes for development was not based on detailed study. Incidentally, only 2 of these 20 lakes were finally notified. Entering into agreements for development of lakes which are not finally notified is fraught with the risk of the exercise not yielding expected results as lake FTL area is not identified.

Although, GHMC budgeted ₹287.33 crore during the period 2014-18 on lakes under its jurisdiction, it spent only ₹42.14 crore on protection and beautification works, construction of idol immersion ponds for Ganesh festival, Bathukamma festival arrangements, etc. The specific break up of expenditure proposed out of the budgeted fund of ₹287.33 crore was not furnished.

### **3.1.2.5 National Plan for Conservation of Aquatic Ecosystems (NPCA)**

National Lake Conservation Plan (NLCP), a Centrally Sponsored Scheme of MoEF, GoI was launched (February 2002) to be funded jointly in the ratio 70:30 by the Central and the concerned State Government. The objective of the scheme was to restore and conserve the urban and semi-urban lakes degraded due to waste water discharge into the lake through an integrated ecosystem approach. It was subsequently subsumed into NPCA w.e.f 01 April 2012.

In order to identify lakes for availing funding under NPCA, State Government prioritised (June 2017) 30 lakes for pre-feasibility study from which, Detailed Project Reports (DPRs) were prepared for 19 lakes with a proposed outlay of ₹310.60 crore. The

<sup>22</sup> HMDA-80 lakes, GHMC-128 lakes and Irrigation-50 lakes

<sup>23</sup> viz., survey of lakes, FTL demarcation, establishment of Base Maps and Boundary Pillars, Morphometry of lakes and catchment study, tests of wastewater and sediment samples, proposed conceptual plans for renovation, preparation of line estimates and prioritisation of lakes for DPR



GoI directed (August 2017) the State Government to revise the proposals due to budgetary constraints. Accordingly, revised proposals with two DPRs were resubmitted (December 2017) with a projected outlay of ₹17.71 crore.

It was however, observed that the proposals were not approved by GoI as of August 2018 due to ambiguity in the rates adopted in the DPR, incorrect estimates<sup>24</sup>, etc. Thus, the DPRs were forwarded without ensuring accuracy of estimates resulting in their non-approval, so far, by GoI and resultant non-availment of funding under NPCA.

### 3.1.2.6 Hussainsagar Lake Catchment Area Improvement Project

Hussainsagar lake holds iconic importance in the city of Hyderabad. Constructed in the year 1562 by Nizam to provide drinking water to the city, it originally had an area of 576.23 hectares. The supply of drinking water from the lake was, however, stopped from the year 1930 and the area has been reduced to 479 hectares over the period with developments coming around the lake. Lack of sewerage network and treatment facilities in its catchment area resulted in degradation of water quality in the lake.

With an objective to improve water quality in lake, Hussainsagar Lake Catchment Area Improvement Project (HCIP) was taken up (February 2006) at a cost of ₹370 crore. The project was to be mainly funded by loan from Japan International Cooperation Agency (JICA) to the tune of ₹310 crore; the balance fund of ₹60 crore was the share of State Government. The project was closed in July 2016 after incurring an expenditure of ₹296.43 crore with only four out of nine major components completed (*Appendix-3.4*). Work relating to sewerage network in catchment area was not prioritised and remained mainly incomplete.

It was observed that the pollution levels, though brought under control as on the date of closure of JICA project, had increased thereafter (*Appendix-3.5*). The increase in the pollution levels in the lake subsequent to closure of HCIP was due to discharge of sewage into the lake. Thus, failure to factor future changes in the character of the inflows rendered the project executed at a cost of ₹296.43 crore unsustainable.

***Thus, selection of lakes based on Assembly constituencies under Mission Kakatiya, resulted in selection of lakes without taking into consideration the priority along a chain of lakes. HMDA did not spend any amount on conservation/protection of lakes, except an amount of ₹12.62 crore on survey of lakes during last five years i.e., 2013-18. Although, GHMC budgeted ₹287.33 crore in 2014-18 on lakes under its jurisdiction, it spent only ₹42.14 crore on protection and beautification works, construction of idol immersion ponds for Ganesh festival, Bathukamma festival arrangements etc. Forwarding of DPRs by State Government without ensuring accuracy of estimates resulted in non-approval of DPRs by GoI and non-availment of funding under NPCA. Failure to factor future changes in the character of the inflows into Hussainsagar rendered the HCIP executed at a cost of ₹296.43 crore unsustainable.***

<sup>24</sup> No estimate was given for the Interception & Diversion (I&D) works and Sewage Treatment Plant (STP) in the summary of the cost estimate, non-adherence to the condition of NLCP regarding restriction of cost for Lake Front Development activities to 25%. In the Summary of the Proposal, it is written that the Schedule of Rates (SOR) followed is of 2015-16 but in the summary of the Cost Estimates, it is mentioned that the rates are as per IRR: SOR 2014-15 and Buildings SOR 2014-15, etc.

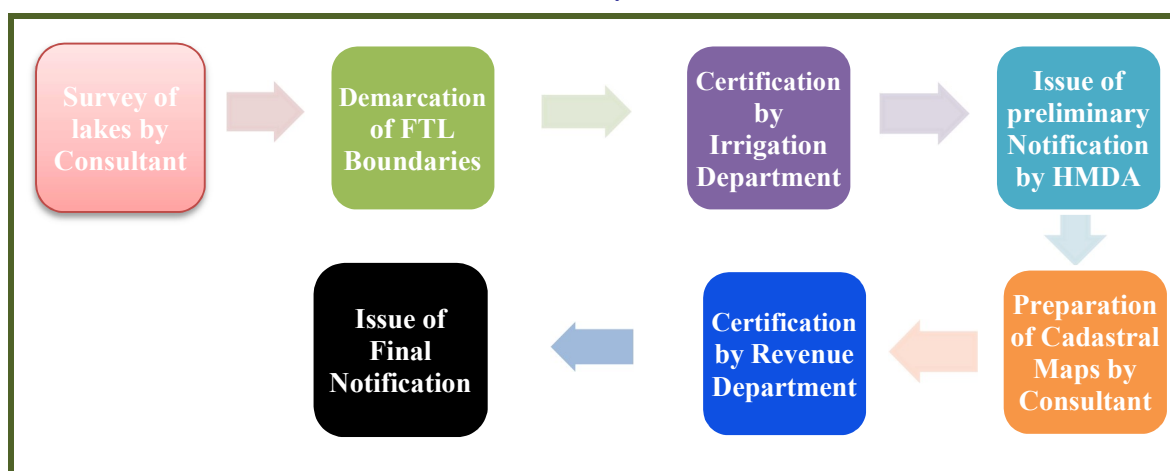
### 3.1.3 Survey and Notification of Lakes

The LPC directed (April 2010) Revenue and Irrigation Departments to prepare a comprehensive database of the lakes in HMDA<sup>25</sup> area. Accordingly, with the assistance of National Geophysical Research Institute (NGRI), 3,132 lakes were identified during 2010-16. It was decided by LPC (March 2012) to appoint a consultant<sup>26</sup> for fixing boundaries of the 3,132 lakes. The work was to be completed in four stages, viz.,

- I. Prepare Screening reports i.e., identification of geographical location through topographical survey with its latitude-longitude coordinates and the status of appurtenant structures<sup>27</sup>. The Screening Report was to be followed by detailed study using Differential Global Positioning System (DGPS) in order to demarcate FTL and boundaries of buffer zone<sup>28</sup> and finally prepare base map of each lake;
- II. Prepare Pre-feasibility Report (PFR) for selected lakes with layout plans, line estimates, etc.
- III. Prepare DPR for the lakes including water analysis, survey and improvements of lakes, etc.
- IV. Manufacture, supply and installation of precast Reinforced Cement Concrete (RCC) FTL pillars.

The FTL map prepared by the consultant was to be verified and certified by the Irrigation Department with reference to the memoirs available or as per its guidelines issued in September 2013. After certification, preliminary notification was to be issued by HMDA which was to be displayed on the website and notice boards of HMDA and Collectorates, inviting objections and suggestions, if any. Cadastral<sup>29</sup> map of the lake would be prepared by the Consultant by superimposing revenue survey numbers of relevant part of the village map and forwarded to Revenue Department through HMDA for certification. On verification by the Revenue Department after considering the objections received, the final notification was to be issued.

**Chart-3.2: Process flow from Survey to Final Notification of a lake**



<sup>25</sup> Database of lakes to be prepared of HMDA area also included the lakes falling under the jurisdiction of GHMC

<sup>26</sup> M/s Aarvee Consultants

<sup>27</sup> Appurtenant structures of the lake are bund, surplus weir, sluice gate, inlet channels, outlet channels, etc

<sup>28</sup> 30 metres for lakes with area of 10 Hectares and more and nine metres for other lakes

<sup>29</sup> A cadastral map is a map defining land ownership showing all registered and geospatial data relating to registered plots

The following was observed on enumeration and survey of lakes:

- The list of 3,132 lakes identified by LPC did not include 50 lakes of erstwhile Rangareddy district which were listed (October 2001) in the State Government Gazette<sup>30</sup> issued by Revenue Department. Another 24 lakes which were identified by GHMC were also not included in the list. Further, 72 lakes available in the records of Revenue Department were also not included. No specific reasons were furnished for non-inclusion of these lakes in the database. The fact that the database on lakes was not complete was accepted (June 2018) by HMDA. Thus, the database available with HMDA was neither complete nor accurate and excluded 146 lakes<sup>31</sup>.
- The Consultant was to complete all stages of the work relating to 3,132 lakes within 18 months from the date of agreements<sup>32</sup>. Though, the entire work was to be completed by September 2015, screening reports (Part I) of the work was still not complete as of September 2018. Part I stage was prepared for 2,653 lakes (85 per cent) as of June 2018.

### ***Case Study 3: Bomrukund Dowla lake***

Bomrukund Dowla lake provided drinking water during Nizam rule. Its outlet joins Mir Alam Tank through a filter bed. During an inspection conducted (February 2014) by HMDA, it was noticed that the lake had no surplus weir and the sluice was choked with dumped materials. Thus, the absence of outlet rendered the upstream colonies vulnerable to the risk of floods during rainy season. Though, HMDA constructed a compound wall to protect the lake from encroachments, from an examination of the records of HMDA, it was noted that a portion on the south-west side of the lake was left open and thus the issue of dumping of materials was not addressed fully.

It was stated (February 2014) by HMDA that demarcation of FTL was necessary to identify the encroachments in the lake area. It was informed (April and August 2018) by GHMC that the survey was completed, preliminary notification was pending and encroachments existed in the lake.

- It was further noted that Hon'ble High Court of Telangana had directed (July 2016) to complete the survey of all lakes by the end of December 2016. As the Revenue and Irrigation Departments did not adhere to the deadline, LPC directed (September 2017) them to complete the work by December 2017. Only 165 lakes were, however, finally notified as of June 2018 (*Chart-3.3*). Thus, even after lapse of three years since the work was entrusted to the consultant and after incurring an expenditure of ₹12.62 crore (September 2018), final notifications were issued in respect of only five per cent of the total lakes.

<sup>30</sup>vide Gazette Notification no.403 dated 6 October 2001 (G.O.Ms. No. 647 dated 3 October 2001 of Revenue (Registration-I) Department)

<sup>31</sup> 24 + 50 +72 lakes

<sup>32</sup> May 2013 and March 2014 (total contract value: ₹32.22 crore)

Revenue Department being the owner of Government lands including water bodies was responsible for survey, demarcation of lake area and removal of encroachments in lake bed area. It was noted that the Department failed in its responsibilities relating to conducting surveys and removing encroachments in lakes despite having mandate for the same.

Delay in certification was attributed (July 2018) by HMDA to pre-occupation of Irrigation and Revenue Departments with other State Government programmes and re-organisation of districts.

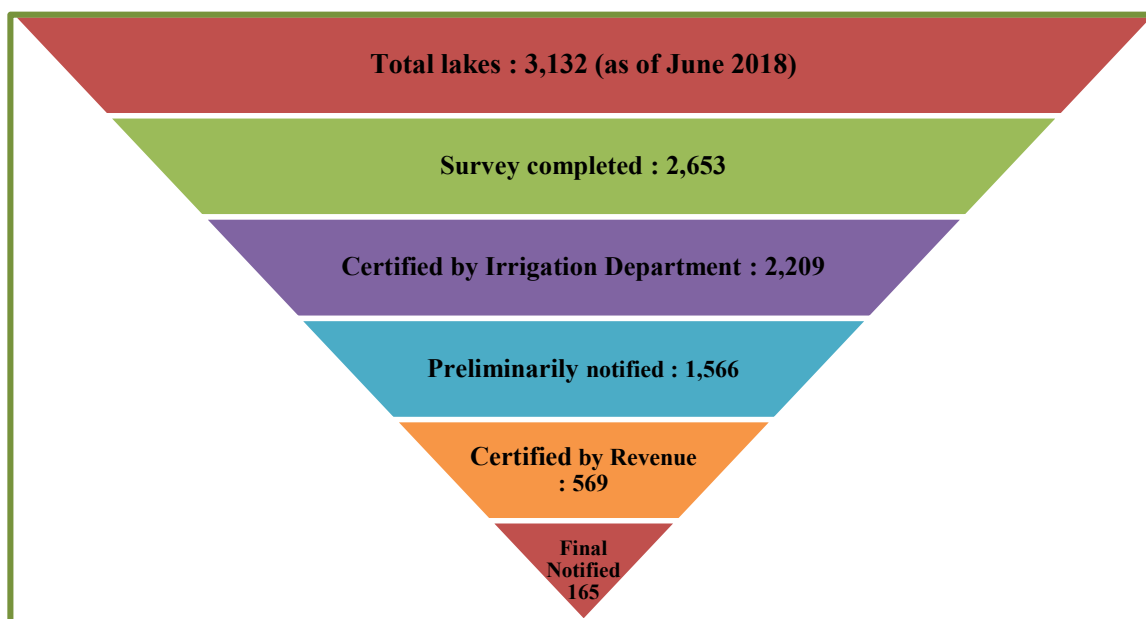


Chart-3.3 : Number of Lakes surveyed and notified

**Key finding: Objectives of notification lost**

It was decided in the first meeting (April 2010) of the LPC that building/construction/layout permission should not be granted in the lake FTL area including buffer zone. Accordingly, DCs were requested (March 2011) to direct the Sub-Registrars not to register lands in the survey numbers falling within FTL/buffer zones. In order to do so, it was necessary to notify the survey numbers of the lake FTL area and buffer zone. It was however, observed that, in respect of all nine lakes selected as sample (out of 165 lakes finally notified) the survey numbers of the lake FTL area and buffer zone were not notified in the official Gazette as *prohibited properties*. Such a notification would have prevented registrations of these survey numbers. Absence of such a notification in the Official Gazette resulted in defeating the very purpose of issuing the lake notifications. It was also in contravention of the decisions taken by the LPC in its first meeting which was reiterated in 7<sup>th</sup> meeting held in April 2013 and was thus fraught with the risk of further litigations, as encroachments of FTL/Buffer Zone in the inspected lakes were observed. Thus, despite the notification of the lake, activities such as construction of buildings and other structures in the FTL and buffer area, could not be prevented. HMDA replied (June 2018) that DCs were addressed to issue instructions for necessary action.

- Analysis of the survey work revealed that delays occurred in reconciliation of the data collected in the survey with the records of the Irrigation and the Revenue Departments. Wherever differences were noticed in FTL area between Irrigation and Revenue Departments, HMDA referred back to Revenue Department for re-certification. A comparison of the initial certification and re-certification indicated that in 37 out of 301 test checked lakes, the variation ranged from (-)59 acres to 58 acres. Further, it was also noticed that these re-certifications did not match the Irrigation data, thus delaying the final notifications.

While reviewing the activities of LPC, Chief Secretary directed (March 2016) to adopt and notify the area as certified by the Irrigation or Revenue Department, whichever is larger. The Revenue Department was also directed to expedite the certification of cadastral maps to sort out the discrepancies of FTL area certified by the Irrigation Department. The LPC, however, did not set specific timelines for resolving such discrepancies. As a result, the issue of final notification could not be completed.

Thirty one of the 165 finally notified lakes were notified without attending to the comments of the Revenue Department i.e., FTL not properly superimposed, Cadastral map not matching with village map, etc. Reasons for the same were not on record. Though the reasons for the same were called for, the Department did not furnish any reply (September 2018).

- Since the lakes were originally used for irrigation, the Irrigation Department maintained memoirs in respect of each lake<sup>33</sup>. As per the methodology approved by LPC for determining FTL, the same should be fixed as per the memoirs/original records of Irrigation Department, wherever they were available. It was however, noted that instead of adopting the original FTL as per the memoir, the Departments adopted and notified FTL as certified by the Revenue and Irrigation Departments. This resulted in reduction of FTL area by 120.895 acres (*Appendix-3.6- Table 1*) in the official records in respect of test checked four finally notified lakes.
- Scrutiny also showed that in case of seven finally notified lakes, for which data on Government land was available in the Gazette of erstwhile Rangareddy district, Government land was reduced by 196.825 acres (67 per cent of the area notified in Gazette) (*Appendix-3.6 - Table 2*).

***Thus, the list of 3,132 lakes enumerated was not complete and excluded 146 lakes. The work on survey of lakes and their notification was incomplete with only five per cent of the lakes being finally notified. Even though the lakes were finally notified, the survey numbers of the FTL area and the buffer zone were not published in the Gazette as being prohibited properties. This was important to ensure prevention of registration of the prohibited survey numbers. Delays in reconciliation of the survey results with the records of the Irrigation and Revenue Departments led to the delays in final notification. In all the four lakes that were finally notified and were supported***

<sup>33</sup> In 2005, lakes under Panchayat Raj Department were transferred to Irrigation Department. There was a constraint in respect of availability of memoirs of these transferred lakes

by Irrigation Department memoirs, it was noticed that the FTL notified was less than that in the memoirs by 120.895 acres. Similarly, the extent of Government land was reduced by 196.825 acres in the final notifications of seven lakes compared to the Government order issued by Revenue Department in October 2001.

### 3.1.4 Results of physical verification

Appurtenant structures of the lake are bund, surplus weir, sluice gate, inlet channels, outlet channels, etc. The bund is essential to maintain the integrity of the lake while other structures like weir and sluices help maintain optimum hydrological pressure on the bund. Weir acts as a barrier to the water stored in the lake and allows overflow of surplus water beyond the full lake storage capacity. This structure helps in protecting the integrity of the bund and thereby the lives and property of the people staying around the lake. Water overflows over the weir only in case of surplus and Sluice gate helps in releasing the water from the lake to the desired extent. An adequate inlet ensures water inflows required to fill the lakes and replace water lost by evaporation and seepage. Outflow from an upstream lake forms the inflow for the downstream lake. This means that, if the outlet of an upstream lake is damaged, the inflows of downstream lake would also be affected.

Some of the lakes in GHMC/HMDA jurisdiction were in chains i.e., outflow of one lake forms inflow for another. Fifteen out of the eighteen physically verified lakes belonged to lake chains while the remaining were independent lakes. Scrutiny revealed that, the chain link had been disturbed over the years. For instance, Nallacheruvu which was at 8<sup>th</sup> position in a series of nine lakes was closed and the outflow was diverted to Musi river directly instead of the downstream Peerjadiguda lake<sup>34</sup>, thus impacting both Nallacheruvu and Peerjadiguda lakes.

#### 3.1.4.1 Status of appurtenant structures

During the joint physical verification of 18 lakes, the physical status of lake's appurtenant structures was verified and the following was observed:

**Table-3.2: Physical Status of appurtenant structures**

| Sl. No. | Name of the Lake                   | Bund | Inlet | Weir/Outlet | Sluice |
|---------|------------------------------------|------|-------|-------------|--------|
| 1       | Neknampur - Pedda & Chinna Cheruvu | ●    | ●     | ●           | ●      |
| 2       | Rangadhamuni Lake                  | ●    | ●     | ●           | ○      |
| 3       | Yellama Cheruvu                    | ●    | ●     | ●           | ●      |
| 4       | Nalla cheruvu                      | ●    | ●     | ●           | ○      |
| 5       | Raisamudram Lake                   | ●    | ●     | ●           | ●      |
| 6       | Sarooranagar Lake                  | ●    | ●     | ●           | ●      |
| 7       | Ramanthapur Cheruvu                | ●    | ●     | ●           | ○      |
| 8       | Durgam Cheruvu                     | ●    | ●     | ●           | ●      |
| 9       | Malkam Cheruvu                     | ●    | ●     | ●           | ●      |

<sup>34</sup>Last in the chain

| Sl. No. | Name of the Lake   | Bund | Inlet | Weir/Outlet | Sluice |
|---------|--------------------|------|-------|-------------|--------|
| 10      | Fox Sagar          | ●    | ●     | ●           | ●      |
| 11      | Nallagandla Lake   | ●    | ●     | ●           | ○      |
| 12      | Chakalvani Cheruvu | ●    | ●     | ●           | ○      |
| 13      | Oora cheruvu Kapra | ●    | ●     | ●           | ●      |
| 14      | Mukkiddi cheruvu   | ●    | ●     | ●           | ●      |
| 15      | Mir Alam Tank      | ●    | ●     | ●           | ●      |
| 16      | Suddhavani Kunta   | ●    | ○     | ○           | ●      |
| 17      | Kotha Cheruvu      | ●    | ●     | ●           | ○      |
| 18      | Nagula Kunta       | ●    | ○     | ○           | ○      |

● Bad condition     
● Good Condition     
● Partially Good     
○ Structure did not exist

As could be seen from the above, most of the appurtenant structures of the lake (other than the bund) were either in bad condition or were only partially good. Irrigation Department, during the joint physical verification (August 2018) exercise, certified the observations regarding the physical conditions of the appurtenant structures. This signifies the need for strengthening the physical structures of the lake and restoring them.

#### Case Study 4 : Mukkidi Cheruvu

Though the memoir of Mukkidi Cheruvu indicated existence of weir, in the preliminary survey and final notification, it was found otherwise i.e., that there was no weir to the lake. Physical verification, however, showed that a weir, shorter than that mentioned in the memoir, was available. The error was not rectified during the preliminary or



Figure-3.4 : Shortened weir at Mukkidi Cheruvu (23 August 2018)

final notification by either Irrigation or Revenue officials. The DPR prepared by the same consultant, however, mentioned in Chapter 3 that there were two surplus weirs. These indicate the errors in survey and preparation of DPR.

#### 3.1.4.2 Status of encroachments

Constitution of India vide Article 51 requires every citizen of India to protect and improve the natural environment including lakes. Section 23(1) of Andhra Pradesh Water, Land and Trees Act, 2002, adopted by Telangana State, requires demarcation of the lake boundaries and also prohibits encroachments in lakes. Rule 27 of the Andhra Pradesh (Telangana Area) Land Revenue Rules, 1951 prohibits grant of patta<sup>35</sup> in lake bed land. Rule 30 *ibid* states that even though the lake bed land was given for cultivation, all the crops should be completely removed by 31 May so as not to obstruct free flow of rain

<sup>35</sup> Patta, basically a revenue record, is an extract of the Register of land holdings and is issued in the name of the person or persons in whose name the records relating to the holdings are maintained

water during monsoon or cause silting. Further, the provisions of A.P. Land Grabbing (Prohibition) Act, 1982<sup>36</sup> prohibit the activity of grabbing of any land whether belonging to the Government, local body, religious and charitable endowment or private person without lawful entitlement with a view to prevent illegal possession or construction of unauthorised structures for sale, etc.








































As per the provisions of Andhra Pradesh Building Rules, 2012, adopted by the State of Telangana subsequent to its formation, building/construction activity was not allowed in either the FTL of the lakes or their buffer zone.

An area of 571.400 Acres was reported (October 2014) by the DCs of erstwhile districts (Hyderabad, Medak and Nalgonda) to be under encroachment in and around 669 lakes. It was further observed that, though there were instances of encroachments in other lakes (noticed by the Irrigation wing of GHMC), the area encroached upon and action taken by the Revenue Department was not on record.

Pursuant to urban flooding (2016), a draft Disaster Management Plan was prepared by GHMC and submitted to Government wherein the areas that formed part of the areas below FTL of the lakes susceptible to urban flooding were identified. Thus, it is evident that even Government is aware of the encroachments of the FTL areas of the lakes and its impact on flooding.

Joint physical verification with the Irrigation Department officials to assess the encroachment of FTL/Buffer zone of selected lakes showed that encroachments existed. The status of encroachments in the physically verified lakes was as below:

**Table-3.3: Status of Fencing of lakes and encroachments in lake FTL/Buffer zone**

| Sl. No. | Name of the Lake       | Fencing to Lake   | Encroachment in FTL  | Encroachment in Buffer zone   |
|---------|------------------------|---|--|---|
| 1       | Pedda & Chinna cheruvu |  |  |  |
| 2       | Rangadhamuni Lake      |  |   |  |
| 3       | Yellama Cheruvu        |  |   |  |
| 4       | Nalla cheruvu          |  |   |  |
| 5       | Raisamudram Lake       |  |   |  |
| 6       | Sarooranagar Lake      |  |  |  |
| 7       | Ramanthapur Cheruvu    |  |  |  |
| 8       | Durgam Cheruvu         |  |  |  |
| 9       | Malkam Cheruvu         |  |  |  |
| 10      | Fox Sagar              |  |  |  |
| 11      | Nallagandla Lake       |  |   |   |
| 12      | Chakalvani Cheruvu     |  |  |  |
| 13      | Oora cheruvu Kapra     |  |   |  |
| 14      | Mukkiddi cheruvu       |  |   |  |

<sup>36</sup> As per the clause 6 of G.O. Ms. No. 45 dated 01 June 2016, all the Acts which were in existence as on 02 June 2014 but not adapted as on this G.O. date (01 June 2016) were deemed to be adapted to the State of Telangana



| Sl. No. | Name of the Lake | Fencing to Lake | Encroachment in FTL | Encroachment in Buffer zone |
|---------|------------------|-----------------|---------------------|-----------------------------|
| 15      | Mir Alam Tank    |                 |                     |                             |
| 16      | Suddhavani Kunta |                 |                     |                             |
| 17      | Kotha Cheruvu    |                 |                     |                             |
| 18      | Nagula Kunta     |                 |                     |                             |

|  |                     |  |                        |  |   |
|--|---------------------|--|------------------------|--|---|
|  | Religious Structure |  | Sewage Treatment Plant |  | Roads                                   |
|  | Buildings           |  |                        |  | Ring Bund                               |
|  | No fencing to Lake  |  | Fencing Damaged        |  | Fencing in Good Condition <sup>37</sup> |

As could be seen from the data above, it was observed that roads existed in the FTL area of eight lakes, while buildings were noticed in FTL of 11 and Buffer Zone of 17 physically verified lakes respectively.

Further analysis showed that:

- The LPC, in its 6<sup>th</sup> meeting directed (October 2012) the members to take up the construction of FTL pillars along with the work of FTL boundary fixation. Further, LPC (September 2013) instructed to fence the lake areas to avoid further encroachments and to take action (July 2014) for removal of encroachments.

It was informed (July 2018) by HMDA that, the encroachments in each lake FTL area would be assessed only after the lake is finally notified and after fixing of FTL pillars. Analysis of records showed that FTL pillars were, however, fixed in only 16 out of 3,132 lakes of which only one Veeranna Kunta was a finally notified lake. No action plan was developed by HMDA for conservation of Veeranna Kunta (finally notified lake) other than fixing FTL pillars. This indicates that the LPC directions for fixing FTL pillars were not followed even in respect of finally notified lakes.

#### Case Study 5: Boin Cheruvu

Boin cheruvu is spread over the Hasmathpet and Boinpally villages of Medchal and Hyderabad districts respectively. During the preliminary notification (June 2014), an FTL of 68.557 acres was demarcated by Irrigation Department. On the basis of the complaints/ representations received, a re-survey (May 2018) of the lake was done by GHMC in coordination with their Revenue and Town Planning wing and FTL was arrived at 76.375 acres. Upon verification of



Figure-3.5: Boin Cheruvu: Fencing after leaving the open layout

<sup>37</sup> The lakes were fenced only to the extent not encroached. The observation is limited to the physical condition of such fencing

FTL boundary map, Directorate of Enforcement, Vigilance and Disaster Management, GHMC found (September 2018) that the fencing erected by the Irrigation Department during the years 2016-18 at a cost of ₹63.85 lakh was not according to FTL boundaries. A part of a newly formed layout falling in the FTL of the northern side of the lake was excluded from the fencing (*Figure-3.5*). This indicates that the protection measures implemented by the Irrigation Department were deficient and the risk of encroachment of the lake FTL area persisted.

Thus, continuous encroachments in the catchment, buffer area and the FTL of lakes coupled with inaction on the part of the Revenue Department to remove encroachments resulted in deterioration of the health of the lake and threatened the very existence of the lake. It was observed that eight lakes had lost their characteristics and had been converted into various structures, encroachments, etc. Details of the eight lakes and their current status are indicated in *Appendix-3.7*.

### 3.1.5 Water quality in lakes

The Water (Prevention and Control of Pollution) Act<sup>38</sup>, 1974 defined pollution to mean such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluents or of any other liquid, gaseous or solid substance into water (whether directly or indirectly). Pollution in lakes leads to eutrophication<sup>39</sup>. It also leads to ground water contamination causing loss of habitat.

#### Key finding: Sources of pollution in lakes

Sewage is the major source of pollution in all the lakes test checked. It was observed that 1,972 Million Litres per Day (MLD) of water was being supplied by the HMWS&SB. Out of this, 80 per cent was generated as waste water (as per standards laid down by the CPHEEO<sup>40</sup>) i.e., 1,578 MLD. Sewage Treatment Plant (STP) capacity available was only 735 MLD which indicates that the remaining sewage was discharged into lakes untreated. This does not include the sewage generated from ground water extracted for various purposes. STPs were available for only four lakes<sup>41</sup> out of the 18 physically verified lakes. The flow of water from one lake to another without any treatment, led to increase in the water nutrient load affecting the characteristics of the lakes downstream.

Although various Acts including Building Rules, 2012, etc., prohibited permanent constructions in the lake FTL and Buffer zones, three<sup>42</sup> of these four STPs were constructed on the lake bed itself thus further reducing the FTL area while one<sup>43</sup> more STP was constructed in buffer area. To avoid dumping of Construction and Demolition waste into lakes, LPC directed (March 2012) GHMC and HMDA to identify



*Figure-3.6 : Debris Dumps in Rangadhamuni Cheruvu FTL (16 August 2018)*

<sup>38</sup> Section 2(e) of the Act

<sup>39</sup> A process where water bodies receive excess nutrients that stimulate excessive plant growth like water hyacinth

<sup>40</sup> Central Public Health & Environmental Engineering Organisation

<sup>41</sup> Rangadhamuni lake, Durgam cheruvu, Saroornagar lake and Mir Alam Tank

<sup>42</sup> Rangadhamuni lake, Durgam cheruvu and Mir Alam Tank

<sup>43</sup> Saroornagar lake

dump sites for debris. While HMDA did not take any action thereon, GHMC identified four locations but did not finalise (May 2018) the same. HMDA had not identified any location for dumping of debris. This indicated non-implementation of LPC decision even after six years. During joint physical verification of 18 lakes, debris dumps were observed in 13 lakes<sup>44</sup> (Figure-3.6). Dumping of the debris in the lake not only affects the quality of the lake but also leads to shrinkage of the area of the lake.

The quality of water *prima facie* is an indicator of health of a lake. The same is indicated, *inter alia*, in terms of Dissolved Oxygen (DO), Biological Oxygen Demand (BOD), Total Coliform (TC), Total Dissolved Solids (TDS) and fluoride. The DO is important for aquatic life depending on aerobic respiration and its shortage leads to decrease in life under water. Increased BOD is the result of sewerage discharge into the lake waters; it leads to increased plant growth such as water hyacinth. The TC count indicates the sanitary condition of lake waters by measuring the extent of bacteria found in human or animal waste and the TC beyond norms would lead to health issues.

As per the NLCP guidelines, quality of water in lakes needs to be maintained at minimum class B<sup>45</sup> out of the five categories approved by Central PCB (CPCB). Accordingly, the levels for various parameters<sup>46</sup> have been prescribed<sup>47</sup>.

Scrutiny revealed the following:

- State PCB was assessing water quality of only 19 lakes in HMDA jurisdiction, i.e., less than one *per cent* of identified 3,132 lakes, though LPC decided (October 2012) that, they were to assess water quality of all lakes. PCB neither furnished specific reply for non-testing of the water quality in the remaining 3,113 lakes nor furnished any proposed action plan to cover the remaining lakes.
- Water quality in PCB tested lakes, other than Himayatsagar and Osmansagar, were continuously categorised as class E or below E since 2015 which indicates that there had been no improvement in the quality of water for last three years.

State PCB was analysing and reporting on water quality of 15 lakes (out of the 50 sampled lakes). Observations of foam and weed during the physical verification and analysis of the PCB results for the month of August 2018<sup>48</sup> are tabulated below:

**Table-3.4: Water Quality as per PCB analysis and physical verification**

| Sl. No. | Name of the Lake  | DO | BOD | Total Coliform | TDS | Fluoride | Foam <sup>49</sup> | Weed/ Hyacinth |
|---------|-------------------|----|-----|----------------|-----|----------|--------------------|----------------|
| 1       | Neknampur Cheruvu | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 2       | Rangadhamuni Lake | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 3       | Nalla cheruvu     | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |

<sup>44</sup> except Durgam cheruvu, Kotha cheruvu, Oora cheruvu, Rayasamudram and Suddavani kunta

<sup>45</sup> outdoor bathing (Organised)

<sup>46</sup> DO  $\geq$  5 mg/ litre; BOD  $\leq$  3 mg/ litre; TC  $\leq$  500 MPN/ 100 ml; TDS  $\leq$  500 mg per litre and fluoride  $\leq$  1.0 mg/ litre

<sup>47</sup> by Bureau of Indian Standards (IS 10500:2012) and CPCB

<sup>48</sup> data for Nalla cheruvu lake (Sl. No. 3) was not available for August 2018 as the lake was closed and water flow was diverted to Musi river directly. Hence, last available data for May 2018 was adopted for Sl. No. 3

<sup>49</sup> The lakes at Sl. Nos. 1 to 8 were physically verified. As such, foam and weed/hyacinth in those lakes only were commented upon

| Sl. No. | Name of the Lake          | DO | BOD | Total Coliform | TDS | Fluoride | Foam <sup>49</sup> | Weed/ Hyacinth |
|---------|---------------------------|----|-----|----------------|-----|----------|--------------------|----------------|
| 4       | Saroornagar Lake          | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 5       | Durgam Cheruvu            | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 6       | Fox Sagar                 | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 7       | Oora cheruvu Kapra        | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 8       | Mir Alam Tank             | ●  | ●   | ●              | ●   | ●        | ●                  | ●              |
| 9       | Noor Mohd. Kunta          | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| 10      | Hussainsagar Lake         | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| 11      | Himayatsagar Lake         | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| 12      | Hasmatpet Lake            | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| 13      | Nadimi Cheruvu            | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| 14      | Amber Cheruvu             | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| 15      | Pedda Cheruvu, Nacharam   | ●  | ●   | ●              | ●   | ●        | -                  | -              |
| ●       | Beyond norms of CPCB/ BIS |    |     | ●              | Yes |          |                    |                |
| ●       | Within norms of CPCB/ BIS |    |     | ●              | No  |          |                    |                |

Source: State PCB data

As seen from the Table-3.4 above, Himayatsagar was the only lake where parameters such as DO, BOD, TC, TDS and fluoride were within permissible norms. In respect of the remaining 14 lakes, DO and BOD were beyond the permissible norms. Except Nalla cheruvu and Mir Alam Tank, TC was beyond permissible norms in 12 out of the 14 lakes. In nine of the lakes fluoride content exceeded the norms. Instances of foaming were observed in two lakes while weed/hyacinth was observed in eight lakes.

#### **Case Study 6: Osmansagar and Himayatsagar lakes**

Osmansagar and Himayatsagar were constructed during 1912 and 1927 respectively for supplying drinking water to the Hyderabad city. In order to protect the catchment areas of these lakes and to protect the raw water channel, State Government issued (March 1996) instructions prohibiting polluting industries and other specified establishments in the catchment of the lakes up to 10 kms from their respective FTLs. To comply with these instructions, 90 per cent of 84 villages covered in this area were earmarked by HMDA (March 1996) as bio-conservation use zone in the Master Plan. Though HMDA did not permit any developments in the zone, unauthorised constructions have come up. Notices were issued (February 2016) by HMDA to respective local bodies for removal of these unauthorised constructions. Scrutiny of records revealed that, although survey of the lakes was entrusted to M/s Aarvee Consultants in March 2014, the consultant has not completed survey even after four years. It was also observed that works were not taken up to protect the lakes from encroachments.

### 3.1.6 Grievance Redressal Mechanism

An effective grievance redressal mechanism would enable citizens to voice their demands and engage public participation in lake related activities. There was no specific helpline number for recording such grievances. Similarly, there was no single window agency to address the issues and grievances of public in lake related matters.

### 3.1.7 Conclusion

*Lakes, which are sources of fresh water, help in maintaining the micro-climate and are micro-ecosystems in themselves. Though identification and demarcation of lake boundaries is the first step necessary for conservation, the survey of lakes was yet to be completed with only five per cent of the identified lakes finalized over a period of more than four years. The Lake Protection Committee (LPC) did not have statutory powers to enforce its decisions. As a result, it failed in its role as a nodal agency and did not engage in long term sustainability planning for conservation and restoration of lakes. This resulted in deteriorating quality of water, foaming, formation of weed and hyacinth. Encroachments were also found in the lakes FTL and Buffer areas that resulted in reduction in the lake areas and change in topography of catchment areas. Thus, State Government's efforts in preservation and conservation of lakes did not yield the desired results.*

### 3.1.8 Recommendations

- (i) Action should be initiated to evict encroachers and reclaim the encroached portion of land belonging to the lakes.
- (ii) Effective measures should be initiated to prevent flow of sewage into the lakes or to ensure its treatment before it flows into the lakes.

The above points were reported to Government in October 2018 and reminded in December 2018. Their reply is awaited.

### 3.2 Non-achievement of objectives of Information System Improvement Plan

**Hyderabad Metropolitan Water Supply and Sewerage Board despite incurring expenditure of ₹one crore failed to meet the project deliverables. Non-achievement of the deliverables led to non-release of Central assistance of ₹2.77 crore to the Board. Besides, Board had to commit an additional amount of ₹3.64 crore out of its own funds for installation of AMR meters**

Government of India (GoI), sanctioned<sup>50</sup> (March 2010) 'Implementation of Information System Improvement Plan (ISIP) for the city of Greater Hyderabad (Project)' as a pilot project at a cost of ₹6.93 crore. Three interim deliverables (initiatives) of the project were to be implemented<sup>51</sup> by the Hyderabad Metropolitan Water Supply and Sewerage Board (Board) within a period of 12 months as tabulated below.

**Table-3.5**

| Description of initiative  | Timelines for completion <sup>52</sup> | Amount allocated (₹ in lakh) | Current status of the work |
|--|--|------------------------------|----------------------------|
| <u>Initiative 1</u> : Undertaking a comprehensive household survey for water supply, sewerage & Solid Waste Management | May 2010                               | 200                          | Not completed              |
| <u>Initiative 2</u> : Installation of Automatic Meter Reading system   | November 2010                          | 443                          | Not completed              |
| <u>Initiative 3</u> : Development of a water quality monitoring protocol   | September 2010                         | 10                           | Completed                  |
|  | <b>One year</b>                        | <b>653</b>                   |                            |

Source: Information/Data furnished by the Board

Department of Municipal Administration & Urban Development (Department) was to coordinate the project and funds were to be routed through Andhra Pradesh Urban Finance and Infrastructure Development Corporation (Corporation).

GoI while sanctioning the project had laid down certain pre-requisites in project implementation which includes *inter alia* that:

- i) A detailed action plan consisting of deliverables, timelines in respect of each components to be submitted by the State Government to GoI by end of April 2010.
- ii) Amounts to be released<sup>53</sup> by GoI in stages, were subject to fulfilment of certain conditions. In case of non-implementation of all the activities within one year, the extra cost was to be borne by the State Government.

<sup>50</sup> vide Ministry of Urban Development, F.N-11025/21/2010-UCD, dated 30 March 2010

<sup>51</sup> The 4<sup>th</sup> initiative on installation of weigh bridges was to be implemented by GHMC by November 2010 for which ₹40 lakh was allocated

<sup>52</sup> GoI in its communication (D.O.No.N-11025/33/08-UCD, dated 6 October 2010) addressed to the Municipal Commissioner, GHMC

<sup>53</sup> 30 per cent: approval of proposal by Sanctioning Committee; 30 per cent: three months after release of first instalment subject to satisfactory achievement of deliverables; 30 per cent: three months after release of second instalment subject to satisfactory achievement of deliverables; 10 per cent: completion of all activities and achievement of outcomes and after evaluation of the impact of the project

iii) A Steering Committee was to be formed by the State Government to oversee implementation of all activities.

Scrutiny of records (August 2018) in the Board relating to implementation of the three initiatives revealed the following:

- Government of India released (March 2010) an amount of ₹2.08 crore towards first instalment of the project funds. Of this, an amount of ₹1.68 crore was released to the Board (May 2010) by the Corporation. Utilisation Certificate (UC) in respect of this amount was furnished by the Board to the Corporation only in September 2015.
- The erstwhile Government of Andhra Pradesh through Andhra Pradesh Urban Finance & Infrastructure Development Corporation Limited (APUFIDC) had furnished<sup>54</sup> (February 2011) a progress report intimating GoI that substantive progress was achieved in implementation of the project. On the basis of this progress report furnished, GoI had released the second instalment (March 2011) of ₹2.08 crore to the Corporation. This amount was, however, not released to the Board by the Corporation due to non-achievement of the deliverables under the Initiatives. Government of India did not release the balance funds of ₹2.77 crore to the Corporation due to non-completion of the Comprehensive Household Survey work by the Administrative Staff College of India (ASCI) and consequent non-submission of the UC.

The status of the project under each initiative was as under:

- ***Initiative 1: Conducting a comprehensive household survey***

The primary purpose of this comprehensive household survey was to reduce illegal connections and Unaccounted For Water (UFW<sup>55</sup>). This work<sup>56</sup> was entrusted (November 2010) through a work order to ASCI five months after receipt of the sanctioned amount. Board took another five months to enter into an agreement (April 2011) with ASCI for ₹two crore of which an amount of ₹one crore was paid to ASCI towards mobilisation advance.

In a letter (8 September 2015) addressed to the Director General, ASCI, the Chief General Manager (CGM) (Revenue) observed that the results of the intermediate data relating to illegal connections furnished by ASCI to the Board were found unreliable with “false alarms” leading to conflicts with consumers and a dent on the Board’s image. Out of 5,608 connections identified as illegal Customer Account Numbers (CANs) by ASCI, the Board claimed to have cross verified 4,234 connections, of which 2,574 CANs were found legitimate; in 231 cases Houses could not be traced and in respect of 85 cases there was no water supply connection. Only 1,221 connections being 22 *per cent* of the illegal connections reported by ASCI were actually found to be illegal by the Board.

<sup>54</sup> vide Lr. No. 13542/JnNURM/Correspondence, dated 24 February 2011

<sup>55</sup> Unaccounted For Water consists of two losses: Real loss (Transmission and distribution losses, storage losses and service connection losses) and Apparent loss (metering inaccuracies and illegal consumption). These losses indicate that the water is neither accounted for nor for which billing is done by the Board

<sup>56</sup> of undertaking a comprehensive House Hold Survey for Water Supply, Sewerage & Solid Waste Management (stipulated period of completion: four months)

The final comprehensive survey report of households was, however, not submitted to the Board by ASCI as of October 2018. The delay in completing the survey was attributed by ASCI to operational challenges particularly related to identifying illegal connections and measuring service level, etc. There was no further progress in the initiative thereafter.

- **Initiative 2: Installation of Automatic Meter Reading System**

Installation of Automatic Meter Reading (AMR) System was to be completed by November 2010 with an objective to improve accuracy in meter reading and to reduce UFW.

Board proposed (August 2013) replacement of 1,977 AMR meters at a cost of ₹17.11 crore which was to be met from funds allocated by GoI (₹4.43 crore), collections made from consumers (₹6.55 crore) and from Boards own revenue (₹6.13 crore). Only ₹1.68 crore was received from GoI for ISIP (26 per cent of the funds envisaged), of which ₹0.79 crore was expended towards installation of 1,954 AMR meters. As a result, the Board committed ₹3.64 crore in excess of the projection from its own resources.

It was noted that Board utilised only an amount of ₹0.79 crore of earmarked GoI funds to install the 1,954 AMR meters<sup>57</sup>. Prudence demanded that the Board incur expenditure from the funds earmarked for this activity by GoI, especially in view of the fact of its precarious financial position<sup>58</sup>.

The condition of sanction from GoI was that release of subsequent instalments would depend on satisfactory achievement of deliverables within a year. Non-achievement of the deliverable led to non-release of Central assistance of ₹2.77 crore to the Board. Further, the second instalment of ₹2.08 crore received by the Corporation (March 2011) was not transferred to the Board (January 2019). The Corporation attributed (January 2019) the delay to its inability to trace the records pertaining to the above funds.

- **Initiative 3: Development of water quality protocol**

Development of water quality protocol, was also entrusted to ASCI (April 2011) for ₹10 lakh with a timeline of two months. The water quality protocol had been completed and the drinking water quality protocol report was submitted to Board. Final payment in this regard had been made to ASCI in May 2012.

Government confirmed (November 2018) the above audit observations.

**Thus, major objective of the project initiatives remained unachieved by the Hyderabad Metropolitan Water Supply and Sewerage Board despite incurring an expenditure of ₹one crore. Non-achievement of the deliverables led to non-release of Central assistance of ₹2.77 crore to the Board. Therefore, Board had to commit an additional amount of ₹3.64 crore out of its own funds for installation of AMR meters.**

<sup>57</sup> ₹10.10 crore was spent on installation of 1,954 AMR meters

<sup>58</sup> Refer PA on HMWS&SB in Para 2.1.7.2 about accumulated losses of the Board being ₹966.89 crore as of March 2017 and its inability to cover even its operational expenditure



### 3.3 Construction of sewerage main - non-achievement of objective

**Poor contract management by Hyderabad Metropolitan Water Supply and Sewerage Board led to delays and gaps in the construction of sewage pipeline (costing ₹67.81 crore). The intended objective of diversion of 90mld sewage flowing into River Musi also remained unachieved**

A project for Abatement of Pollution of River Musi received administrative approval<sup>59</sup> and technical sanction (February 2007) for ₹339.08 crore. The project envisaged diversion of sewage from 18 nalas<sup>60</sup> through five<sup>61</sup> conveying mains for sewage treatment, which would be treated in four<sup>62</sup> Sewage Treatment Plants before flowing into River Musi.

One of the project components was Duplicate A Main for conveying<sup>63</sup> 90 MLD<sup>64</sup> of sewage. State Government approved<sup>65</sup> adoption of trenchless technology<sup>66</sup> (on trial basis) to minimise disturbances during laying of pipeline in narrow congested areas with heavy vehicular traffic. As per the above order of the Government, the Board was aware that the area along alignment of proposed pipeline was rocky and would involve trench excavation at a depth of more than four metres.

Technical sanction was accorded<sup>67</sup> for the above work for ₹75.41 crore. Work<sup>68</sup> was entrusted<sup>69</sup> (August 2008) by the Hyderabad Metropolitan Water Supply and Sewerage Board (Board) under Engineering, Procurement and Construction (EPC) system scheduled for completion by August 2010. The work included manning, operation and maintenance of sewer main for a period of 24 months, i.e., till August 2012. Periodical extensions<sup>70</sup> of time were sanctioned on various grounds<sup>71</sup> by the competent authority up to 31 August 2016 without imposing liquidated damages.

<sup>59</sup> by Lr. No. M-11018/7/06, NRCD-II, dated 23 February 2007 of Ministry of Environment and Forests, Government of India under National River Action Plan Assistance

<sup>60</sup> nalas are sewage pipeline for transmitting the dry weather flows from the various parts of the city to Sewage Treatment Plant

<sup>61</sup> i.e. (a) Duplicate A main (b) Duplicate NIS Main (c) Duplicate SIS Main (d) Jaguda Main and (e) Old Ramanthapur Main

<sup>62</sup> Amberpet (339 mld); Nagole (172 mld); Nallacheruvu (30 mld) and Attapur (51 mld)

<sup>63</sup> from Municipal Corporation of Hyderabad Office complex, Liberty junction to Nimboliadda outfall sewer

<sup>64</sup> Million Litres per Day

<sup>65</sup> vide G.O.Ms.No.477 MA of Municipal Administration and Urban Development(W) Department dated 5 July 2007

<sup>66</sup> Trenchless technology is a form of underground construction that requires the use of few or no trenches at surface or street level. It uses new techniques and equipment to install or replace underground infrastructure without causing disturbance to the ground above

<sup>67</sup> vide Memo No. HMWSSB/DP/NRCD/Dup-A-Main/2007-08/41, dated 23 August 2007

<sup>68</sup> construction of drive pits, manholes, shifting of other utility services if any falling under the alignment, carting away surplus excavated earth, refilling and restoration of roads including field testing and commissioning of sewer lines etc.

<sup>69</sup> vide Agreement No.10/DB1/CGM(E)/PCC-1/1800 mm-Dup.A. Main Sew/Trenchless Tech./2008-09, dated 14 August 2008 to M/s Vishwa Infrastructures and Services Private Limited, Secunderabad (Joint Venture with M/s United Gulf Construction Company-WLL, State of Kuwait) for an agreed value of ₹76.44 crore with excess tender percentage of 1.425 on Estimated Contract Value of ₹75.36 crore

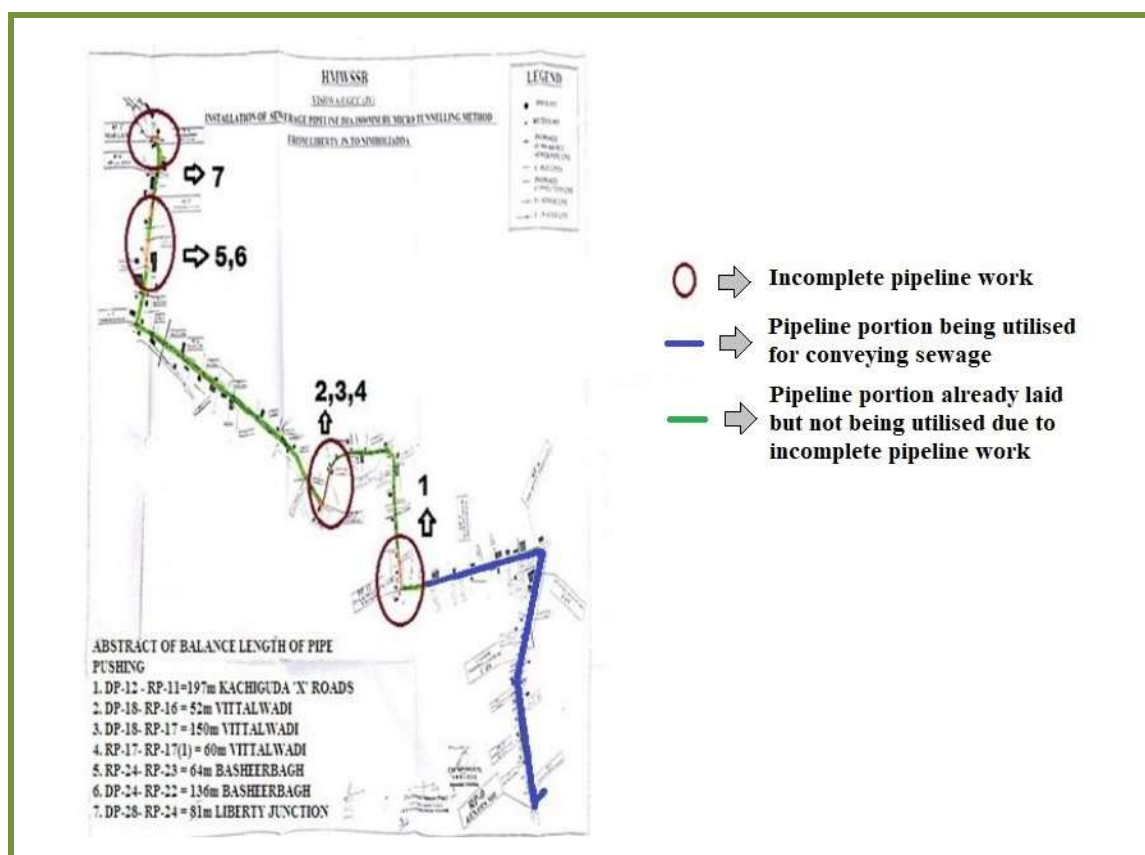
<sup>70</sup> upto February 2011; up to 13 August 2012; 31 December 2014 and finally up to 31 August 2016

<sup>71</sup> i) Due to the General Elections, the GHMC authorities have given permission for cutting the road in the July 2009 and subsequently they have obtained traffic regulatory permissions from Hyderabad Traffic Police Department (ii) Tunnel Boring Machine procured from Kuwait after obtaining all permissions from Customs in the month of August 2009, due to GHMC elections and festivals like Ganesh Chaturthi, Dassera, the work of shifting and erecting the machine at site and Jacking of pipes has started from 3 October 2009 (iii) In rocky area, the blasting permission was not given by the Police Department, jacking of pipes in rocky area is also consuming more time. Due to heavy traffic, the shifting of machinery from one drive pit to another and assembling the same with heavy crane is taking lot of time and (iv) Carting of excavation is also not permitted in daytime by the Traffic Police Department

Under the EPC system of contracting, the contractor was fully responsible for entire execution of entrusted work. The tender process was to establish the competence of the agency in this regard. Further, the contract required the agency to survey and test sub-surface ground conditions (clauses 7.4 to 7.7) along the pipeline route and identify suitable machinery (clause 6.2) before commencement of work.

Audit of Board (March–August 2018) showed that the contractor began to execute the work in 2008. Although 4.3 km out of 5 km was completed by December 2018, there were gaps in the entire stretch along the pipeline. *Chart-3.4* illustrates these gaps in pipeline work. The balance work was held up at four locations reportedly due to presence of hard dense rock/granite and big size boulders<sup>72</sup>. The total value of work done and measured<sup>73</sup> was ₹67.81 crore.

**Chart-3.4: Proposed sewerage pipeline indicating progress of work**



In view of the delays in work, Board requested (January 2018) the services of Geological Survey of India (GSI) for investigation of soil strata at the locations where work was held up (*Chart-3.4*). The test results of the soil strata samples revealed that, the strength of rock (i.e. Uniaxial Compressive Strength) varied between 800 to 2,000 Kgf/Cm<sup>2</sup>. It was also found that the cutters employed by the agency in the work were designed to cut rock of N value upto 200 Kgf/Cm<sup>2</sup> only and there were breakdown of parts of the Tunnel Boring Machine (TBM).

<sup>72</sup> of 'N' value between 200 to 400Kgf/Cm<sup>2</sup> (Kilogram force per Square Centimetre)

<sup>73</sup> upto LS 21<sup>st</sup> & part bill and payment made to the contractor (vide Cheque Nos. 053605 and 053606 dated 24 March 2016 (vide M.B.No.04/PD-III/Trenchless/EPC/2013)

Thus, it is evident that the contractor did not conduct proper site investigation prior to execution of the work and did not employ appropriate equipment for the work. This was in violation of clauses<sup>74</sup> 6.2 and 7.4 to 7.7 of the agreement. The Board also did not ensure that the contractor fulfilled the conditions of the agreement.

On the ground that the site conditions were beyond the control of both the parties, the contractor requested (June 2018) the Board to invoke the “Force Majeure<sup>75</sup>”. The Board, however, issued notice (31 July 2018) to the agency for the non-completion of the work. The agency was also intimated that the balance portion of work was being deleted<sup>76</sup> from the scope of the work. The provision to get the balance work executed at the risk and cost of the agency was invoked. Further, the clauses relating to responsibility of maintenance of sewer main (for 24 months period) was retained so as to ensure that work on the sewer main was not affected.

Accepting that the trenchless technology had failed in the portion of the pipeline, the balance work was proposed<sup>77</sup> (June 2018) to be executed on open cut method. Government approval to the proposal was awaited (September 2018). Audit also observed that although balance work was retendered<sup>78</sup> twice (August 2018 and September 2018), work could not be entrusted due to non-response to the tenders.

Government replied (January 2019) that the pipeline to the extent of 4.3 km length (out of 5 km) had been laid, of which 1.86 km had been put into operation. The pipeline constructed was conveying around 52 mld of sewage flow to the outfall sewer at Nimboliadda. No evidence was, however, submitted to support the claim.

***Thus, poor contract management by Hyderabad Metropolitan Water Supply and Sewerage Board led to delays and gaps in the construction of sewage pipeline (costing ₹67.81 crore). The intended objective of diversion of 90mld sewage flowing into River Musi also remained unachieved.***

<sup>74</sup> **Selection of pipe jacking equipment (Clause 6.2):** The contractor shall be responsible for the selection of a suitable pipe jacking equipment and tools capable of pushing the pipes and excavating the materials including rock and mixed ground that may be encountered at the site; **Site investigation (Clause 7.4):** The contractor shall clearly understand the importance of establishing the subsurface ground conditions and their range of variability along the pipeline route well before embarking on the actual works; **Subsurface investigation (Clause 7.5):** The subsurface investigation shall include study of all existing geological and geotechnical information for the area including information pertaining to the project and the location maps of all the services in the area from the utility companies/authorities for initial planning; **Geological and geotechnical evaluation (Clause 7.6):** The contractor is deemed to have obtained, studied and evaluated all the geological and geotechnical data for the sites and must supplement this information possessed by him with appropriate geotechnical investigation prior to selection of appropriate excavation and jacking equipment; **Borelogs and ground probing (Clause 7.7):** Sufficient number of borelogs shall be done by the contractor, and also carry out simple probing techniques at closer interval to reaffirm the types of soils

<sup>75</sup> constitutes an exceptional events or circumstances which are beyond the control of both the parties, which could not have been reasonably provided against while entering into contract, which has arisen and could not have been overcome and which is not substantially attributable to any of the party

<sup>76</sup> under clause 60 (c) of Andhra Pradesh Detailed Standard Specifications

<sup>77</sup> Based on the recommendations of the Senior Engineers Committee of Board

<sup>78</sup> At a cost of ₹10.24 crore

### 3.4 Collection of Sewerage cess from consumer

#### **Failure of the Hyderabad Metropolitan Water Supply and Sewerage Board to enter into a revised agreement with International Crops Research Institute for Semi-Arid Tropics (ICRISAT) resulted in non-levy of Sewerage cess of ₹1.18 crore**

Hyderabad Metropolitan Water Supply & Sewerage Act, (Act <sup>79</sup>) empowers <sup>80</sup> the Hyderabad Metropolitan Water Supply & Sewerage Board (Board) to levy and revise tariffs. The tariffs are levied to provide sufficient revenues to cover its operating expenses, as well as project related expenses. The tariffs included Water cess and Sewerage cess<sup>81</sup> which was to be levied on water consumption. Board envisaged<sup>82</sup> collection of Sewerage cess in respect of all consumers within Municipal limits of the Greater Hyderabad Municipal Corporation (GHMC).

Audit scrutiny of records for the period from April 2013 to July 2018 relating to collection of Sewerage cess by Board revealed the following:

- i) Board had provided (December 2002) water connection<sup>83</sup> to International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). An agreement to this effect was also entered into by the Board with ICRISAT on 18 December 2002 for supply of 181.84 kilo litres of water per day under the category of bulk consumers<sup>84</sup>.
- ii) At the time of agreement, ICRISAT did not come under the Municipal limits of GHMC. Consequent upon re-organisation of the GHMC jurisdiction (April 2007), however, the property of ICRISAT came under GHMC.
- iii) As per Clause 6 of the original agreement, the levy of Sewerage cess was not applicable in respect of ICRISAT. Consequent upon the revision of tariff by the Board (2011), however, Board had envisaged charging of Sewerage cess in respect of all consumers within GHMC area.
- iv) Board, however, did not enter into any revised agreement with the ICRISAT for levying of Sewerage cess as envisaged<sup>85</sup> in the agreement that entitles the Board to revise water tariff and conditions for water supply. This could have been done by duly notifying to the consumer either individually or through notification in News papers/through Gazette notification. As a result of this inaction on the part of the Board, it had forgone a revenue of ₹1.18 crore towards Sewerage cess for the period from April 2013 to July 2018.

State Government in its reply (October 2018) stated that Board had levied the Sewerage cess on ICRISAT for the period April 2013 to July 2018 to the extent of ₹1.18 crore in the month of October 2018. The sewerage cess levied is yet to be realised from ICRISAT (as of January 2020).

***Thus, failure of the Board to enter into a revised agreement resulted in non-levy of Sewerage cess of ₹1.18 crore.***

<sup>79</sup> and the water supply rules issued there under

<sup>80</sup> Section 8 read with Section 22 of the Hyderabad Metropolitan Water Supply & Sewerage Act

<sup>81</sup> to be charged @ 35 per cent of the water consumption charges

<sup>82</sup> vide its proceedings (duly notified in the State Gazette) stipulate the Sewerage cess to be collected as a percentage of water cess from time to time (i.e. May 2002, December 2006, November 2011 and March 2014 (latest)

<sup>83</sup> Consumer Account Number (CAN) 082000019

<sup>84</sup> Any consumer consuming more than 50 kilo litres per day is considered as a bulk consumer

<sup>85</sup> in sub-clauses q and r of clause 4 of the agreement

### 3.5 Irregular payment towards desilting works

#### Failure of Greater Hyderabad Municipal Corporation in exercising due diligence on desilting works resulted in irregular payments of ₹53.56 lakh

Section 290 of Greater Hyderabad Municipal Corporation (GHMC) Act, 1955, stipulates that all municipal drains are under the control of Commissioner. He, along with his staff<sup>86</sup> of Engineering Division shall maintain all drains and ensure their cleansing<sup>87</sup> time to time. Cleansing/desilting works include (i) Excavation and removal of silt from canal bed and (ii) Carting of excavated silt to dumping yard. These works are to be check measured<sup>88</sup> by Engineering staff while inspecting the works under their control. Manual of Role and Responsibilities of various functionaries in Urban Local Bodies stipulates that Executive/Deputy Executive Engineer should inspect, monitor and check measure all the works under their control.

Corporation executed (2015-17) 766<sup>89</sup> desilting works, of which 207 works were of value more than ₹5lakh each. Audit test checked (August 2017) 21<sup>90</sup> desilting works as given in *Appendix-3.8*. Audit found that there was evidence of check measurement of works in the Measurement Books (MBs). Irregularities were, however, noticed in all the test checked desilting works as detailed below:

- i. Motor Vehicles Act, 1988<sup>91</sup> stipulates that while issuing goods carriage permit<sup>92</sup>, the State Transport Authority shall mention the maximum gross vehicle weight<sup>93</sup> of the vehicle used in the permit and may impose restrictions on limits of weight<sup>94</sup>. Accordingly, it was stipulated in State Motor Vehicles Rules, 1989, that no goods vehicle shall be deemed to have contravened the laden weight restrictions, if the excess weight is not more than five *per cent* of the permitted laden weight. Transport Department maintains the details of all the registered vehicles in the State.

Details of vehicle numbers recorded in the MBs of test checked works were verified as per records of Transport Department. In 20<sup>95</sup> out of 21 test checked works, it was observed that silt reported to be carted through 133 vehicles (1,326 trips) was more than the maximum capacity of the weight permitted to be carried by these vehicles. ₹43.91 lakh was incurred towards desilting works of 13,206 MT (Metric Tonne) of silt in excess of the maximum capacity of the weight permitted by the vehicles. In 15<sup>96</sup> out of 21 test checked works, it was also observed that in respect of 227<sup>97</sup> out of

<sup>86</sup> Chief Engineer, Superintending Engineers, Executive Engineers, etc.

<sup>87</sup> flushed, cleansed and emptied

<sup>88</sup> Measurements of work done in a contract are recorded in the Measurement Book by Assistant Executive Engineer/Assistant Engineer (in-charge of the work) and these recordings are verified by the Deputy Executive Engineer/Executive Engineer depending on the value of the work

<sup>89</sup> 398 works in 2015-16 and 368 works in 2016-17

<sup>90</sup> 10 *per cent* of 207 works valued for more than ₹ 5 lakh

<sup>91</sup> Central Act 59 of 1988

<sup>92</sup> Section 79 of Motor Vehicles Act, 1988

<sup>93</sup> Total weight of vehicle, which includes both unladen (weight of a vehicle including all equipment ordinarily used with the vehicle when working, but excluding the weight of a driver/goods) and laden weight (means gross weight of the vehicle minus unladen weight)

<sup>94</sup> Section 113 of Motor Vehicle Act, 1988

<sup>95</sup> Except work indicated at S.No.12 of *Appendix-3.8*

<sup>96</sup> Works indicated at S.No.1, 3, 4, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 20 and 21 of *Appendix-3.8*

<sup>97</sup> In 198 trips excess load ranged from 101 to 500 *per cent* and in 29 trips excess load was more than 500 *per cent*

1,326 trips (17 per cent), excess load carried was more than the 100 per cent of the maximum permitted load of the vehicle.

Government accepted (July 2018) that material was loaded without weighing at the site to complete the works in speedy manner; carting of semi-solid material<sup>98</sup> and probability of loading boulders and stones lead to increase in the overall load of the excavated material. Reply was explaining the reasons for overload of material. Government, however, did not furnish specific reply relating to permissibility or possibility of carting of excess load of more than the 100 per cent of the maximum capacity of the vehicle.

- ii. In respect of two<sup>99</sup> out of 21 test checked works, on cross-check of the transport vehicle numbers recorded in the MBs with the records of Transport Department, it was observed that these vehicles were registered as passenger vehicles (Passenger Auto Rickshaw). 1,346 MT of silt was reported to be carted through two passenger vehicles (59 trips) and ₹3.92 lakh was incurred towards the same.

Government stated (July 2018) that identification of vehicle number might have been due to human error, and that carting was done through the vehicles provided by Contractor and not by auto rickshaws or two wheelers. It was noted from the MB that the passenger vehicle with same registration number<sup>100</sup> was used in one work<sup>101</sup> for carting of silt for 22 days. Similarly, in another work<sup>102</sup> the passenger vehicle with same registration number<sup>103</sup> was used for 12 days. Thus, it cannot be accepted as human error.

- iii. In respect of five<sup>104</sup> out of 21 test checked works, it was observed that nine vehicle numbers recorded in the MBs did not feature in the data base of the vehicles maintained by Transport Department. 1,327 MT of silt was reported to be carted through these vehicles (53 trips), and ₹5.73 lakh was incurred towards the same.

Government stated (July 2018) that tractor trailers were used in small/by-lanes and registration number of these vehicles were different. Therefore, it was not possible to verify the registration numbers. Audit observation was with regard to vehicles used for carting of silt to dumping yard and were cross-verified with the data of Transport Department.

The above observations were noticed in respect of test checked desilting works. Consequently, the genuineness of execution of desilting works as reported by GHMC was doubtful. These cases are based on test-check and GHMC should verify all the cases and initiate action with regard to the irregularities found, if any.

***Thus, failure of Greater Hyderabad Municipal Corporation in exercising due diligence on desilting works resulted in irregular payments of ₹53.56 lakh.***

<sup>98</sup> which weighs 25 per cent more than dry silt

<sup>99</sup> works indicated at S.No.10 and 12 of Appendix-3.8

<sup>100</sup> Passenger Auto Rickshaw with registration No.AP28TB5333

<sup>101</sup> Pre-monsoon desilting of Dwarakadasnala, Prakash nagar Extension nala (beside Church) and Old Customs nala in 148-Begumpet Corporator division (under Division-18A)

<sup>102</sup> Pre-monsoon desilting of Picket nala from SP road to STP Plant in 148-Begumpet Corporator division (under Division-18A), Secunderabad, GHMC for the year 2014-15

<sup>103</sup> Passenger Auto Rickshaw with registration No.AP24W3880

<sup>104</sup> works indicated at S.No.3,4,16,18 and 20 of Appendix-3.8

### 3.6 Avoidable expenditure due to delayed remittances of EPF contributions

**Failure of Karimnagar Municipal Corporation in timely remittance of Employees' Provident Fund contributions resulted in avoidable expenditure of ₹3.83 crore towards damage charges and interest**

As per the provisions of Employees' Provident Funds (EPF) and Miscellaneous Provisions Act 1952, the employer shall remit the recoveries effected from the wages of employees on account of Provident Fund (PF) to the Fund Commissioner within 15 days after the end of the month. Failure to remit such recoveries within the prescribed time attracts damage charges<sup>105</sup> not exceeding the amount of arrears along with interest at the rate of 12 *per cent* per annum.

Audit examined (February 2018) the records of Commissioner, Karimnagar Municipal Corporation (KMC) relating to PF contributions of employees on contract. It was observed that the Fund Commissioner issued (July 2015) proceedings to remit ₹3.83 crore<sup>106</sup> towards damage charges and interest for delayed remittances of the PF contributions<sup>107</sup> by KMC for the period February 2007 to March 2015. Corporation paid ₹3.83 crore between December 2015 and March 2016 to Fund Commissioner towards damage charges and interest from the Municipal General Fund.

It was ascertained (June 2018) from EPF Organization that there were delays<sup>108</sup> in remittances of PF contributions for the period April 2015 to March 2018 also.

Government accepted (February 2019) the observation on delayed remittances of PF contributions and stated that Departmental proceedings were initiated (March 2018) against charged officers of the Corporation. Further, Government stated that instructions were issued to Municipal Commissioners of all the Urban Local Bodies in the State for timely remittance of PF contributions.

***Thus, delay by KMC in remitting EPF Contributions resulted in avoidable expenditure of ₹3.83 core towards damage charges and interest.***

<sup>105</sup> Five *per cent* (for delays less than two months), 10 *per cent* (for delays above two months and less than four months), 15 *per cent* (for delays above four months and less than six months) and 25 *per cent* (for delays six months and above)

<sup>106</sup> ₹2.56 crore towards damage charges and ₹1.27 crore towards interest

<sup>107</sup> Details of amount due towards PF contributions for period February 2007 to March 2015 were not furnished despite specific request

<sup>108</sup> Fund Commissioner stated that initial enquiry is yet to be taken up

### 3.7 Rain water harvesting structures not constructed

**Municipal Corporations collected fee from building owners towards Rain Water Harvesting Structures (RWHS) but incurred no expenditure either as refund to applicants or towards construction of RWHS in the building premises during 2015-18. Thus, they failed to comply with the mandatory provisions on rain water harvesting and the objective of recharge of ground water was defeated**

With a view to conserve ground water, State Government issued (1998/2000/2005) orders for harvesting of rain water in different categories<sup>109</sup> of buildings. Commissioners of Urban Local Bodies (ULBs) were directed to constitute Rain Water Harvesting cell to motivate building owners to construct Rain Water Harvesting Structures (RWHS). The cell was also tasked to educate people on the importance of ground water recharging and rain water harvesting/conservation.

Attention is drawn to Paragraph 3.2.2 of the Report of the Comptroller and Auditor General of India on Local Bodies for the year ended March 2010<sup>110</sup> on conservation of rain water. The Report pointed out the lacunae of ULBs in implementation of Government Orders on Rain Water Harvesting.

Audit of all the five<sup>111</sup> Municipal Corporations under the administrative control of Director, Municipal Administration was conducted between December 2017 and June 2018. Audit noted that in these five Municipal Corporations, the deficiencies pointed out<sup>112</sup> in the Report of 2010 were not addressed. The specific findings are as detailed below:

- i. State Government orders (2005) stipulated that provision for RWHS should be indicated in the building plans submitted to ULBs for approval. If building owners fail to construct RWHS, Commissioners of ULBs concerned should construct and recover the cost incurred.

Audit found that the Corporations were collecting the amount towards RWHS upfront from the applicants while according building permissions. This amount was required to be either refunded to applicant on ensuring construction of RWHS or to be utilised on its construction by the Corporation. The test checked Corporations collected (2015-18) ₹3.74 crore<sup>113</sup> towards RWHS while according building permissions. Karimnagar Municipal Corporation (KMC) maintained a separate account for RWHS. The remaining four<sup>114</sup> Corporations, however, credited the amount collected towards RWHS to the General fund. Further, as per the records<sup>115</sup> of Corporations, no

<sup>109</sup> In 1998, Government made harvesting of rain water in all group housing and commercial mandatory. In June 2000, for buildings constructed in plots measuring 300 sq.mtr. and above. In February 2005, for all the buildings in an area of not less than 200 sq.mtr

<sup>110</sup> of the composite state of Andhra Pradesh

<sup>111</sup> Greater Warangal, Karimnagar, Khammam, Nizamabad and Ramagundam

<sup>112</sup> non-utilisation of the amount collected from the applicants of building permission towards RWHS, non-constitution of Rain Water Harvesting cell, etc.

<sup>113</sup> Greater Warangal: ₹2 crore; Karimnagar: ₹0.32 crore; Khammam: ₹0.83 crore; Nizamabad: ₹0.17 crore and Ramagundam: ₹0.42 crore

<sup>114</sup> Greater Warangal, Khammam, Nizamabad and Ramagundam

<sup>115</sup> Annual accounts



expenditure was incurred (either as refund to applicants or towards construction of RWHS in the building premises by the Corporations) during 2015-18 towards RWHS.

Government did not furnish specific reply on the above observation.

- ii. KMC incurred (2016-17) ₹31.44 lakh towards construction of RWHS in the public places from the amounts collected from the applicants of building permission.

Government stated (February 2019) that KMC constructed the RWHS in the public places and residential houses of willing persons who came forward for construction of RWHS (but not the applicants) with the approval of Council. Audit is of the view that utilisation of the money collected from individual applicants for the purpose other than intended was irregular.

- iii. Building Rules 2012 stipulate that Occupancy Certificate is to be issued on construction of buildings as per the specifications of sanctioned plan. The form prescribed for Occupancy Certificate, however, did not include provision to verify construction of RWHS. Audit observed that there was no mechanism in the Corporation to ensure construction of RWHS in the building premises while issuing Occupancy Certificate.

Government accepted (February 2019) the observation and stated that Director Town & Country Planning was instructed to incorporate a specific provision in the form prescribed for Occupancy Certificate.

- iv. Rain Water Harvesting cell was constituted (2012) in Greater Warangal Municipal Corporation. Information pertaining to remaining four<sup>116</sup> Corporations was not furnished.

Government stated (February 2019) that necessary instructions would be issued to the Municipal Commissioners for constitution of cell immediately, if not constituted previously.

- v. Departmental reports<sup>117</sup> revealed that in May 2018, 168 wells in eight districts<sup>118</sup> were monitored to compare the ground water level with reference to May 2017. It was found that there was fall in water levels of 51 wells (30 per cent). These reports indicate the imperative need for Rain Water Harvesting.

Government stated (February 2019) that for effective implementation of Government orders on conservation and harvesting of rain water, necessary instructions would be reiterated to all the Commissioners of ULBs to implement construction of RWHS scrupulously in the premises of the buildings of the applicants.

***Thus, Municipal Corporations failed to comply with the mandatory provisions despite collecting the amounts from building owners towards construction of RWHS. This resulted in non-achievement of the objective of recharge of ground water.***

<sup>116</sup> Karimnagar, Khammam, Nizamabad and Ramagundam

<sup>117</sup> Ground Water Department conducted analysis of 790 wells in the State to report water level fluctuations in May 2018 with reference to May 2017

<sup>118</sup> These eight districts viz., Medchal-Malkajgiri, Hyderabad, Mahabubnagar, Jogulamba-Gadwal, Rangareddy, Wanaparthy, Yadadri and Warangal Urban received excess rainfall during 2017-18

### 3.8 Loss of revenue

**Greater Warangal Municipal Corporation failed to comply with Government orders on levy and remittance of Environment Impact Fee. This resulted in loss of revenue of ₹35.75 lakh in test checked cases to the Government. Besides, there was non-remittance of ₹74.45 lakh collected towards Environment Impact Fee to the Directorate of Mines and Geology**

State Government issued<sup>119</sup> (June 2015) orders for levy of Environment Impact Fee on buildings with built-up area of more than 10,000 sft<sup>120</sup>, as per the plan approved by the competent authority i.e. Local Bodies. The fee was to be levied in lieu of seigniorage charges on building or construction material. It was to be collected at the rate of ₹3 per sft while sanctioning building plans and remitted into the Treasury<sup>121</sup>.

Greater Warangal Municipal Corporation (GWMC) sanctioned 1,305 building permissions during 2015-17<sup>122</sup>. Audit test checked (April 2018) 193 (15 per cent) cases of building permissions. Of the test checked cases, 50 building permissions were regulated with built-up area of more than 10,000 sft during July 2015 to November 2016. Audit found non/short levy of Environment Impact Fee by GWMC in respect of 47 (94 per cent) out of 50 test checked cases. This resulted in loss of revenue of ₹35.75 lakh to the Government. Further, it was found that:

- i. Environment Impact Fee of ₹34.05 lakh was not levied in 35 out of 47 (74 per cent) test checked cases. There was short levy of fee by ₹1.70 lakh in 12 out of 47 (26 per cent) test checked cases, due to non-consideration of built-up area pertaining to parking and cellar while computing fee. These cases are based on test-check and GWMC should, therefore, verify all the cases and initiate action with regard to the irregularities found, if any.

Government accepted (February 2019) the observation on short levy of the fee but assured that amount would be collected from building owners. It was further stated that while orders for levy of the fee were issued in June 2015, GWMC levied from April 2016 after obtaining Council Resolution. Audit, however, found instances of non-levy of Environment Impact Fee in the test checked building permissions regulated after April 2016 also.

- ii. Director Mines and Geology reported (June 2018) that ₹9.93 crore was received towards Environment Impact Fee from all the Local Bodies in the State during 2015-18. No receipts were reported from Local Bodies of 23 and 26 districts (out of 30<sup>123</sup> districts) in the State for the years 2016-17 and 2017-18 respectively.

Government did not furnish specific reply. It was, however, stated that issue would be examined with the Municipal Commissioners concerned.

<sup>119</sup> G.O.Ms.No.34 of Industries and Commerce (Mines) Department dated 17 June 2015

<sup>120</sup> including area meant for parking, pathway etc.

<sup>121</sup> Head of Account 0853-Non-Ferrous Mining and Metallurgical Industry, 102-Mineral Concessions, fee, etc., SH (03) Royalty on Environment Impact Fee

<sup>122</sup> GWMC did not furnish details of building permissions sanctioned during 2017-18 despite specific request

<sup>123</sup> Information pertaining to Hyderabad district is awaited

- iii. GWMC collected (2015-17) Environment Impact Fee amounting to ₹10.54 lakh in respect of 15 test checked cases. Director, Mines and Geology, however, received only ₹0.38 lakh on this account from Warangal district during 2015-17 and no collections were reported during 2017-18.

Government accepted (February 2019) the observation on poor remittance of Environment Impact Fee and stated that Environment Impact Fee of ₹74.45 lakh<sup>124</sup> collected as of January 2019 would be remitted to the Directorate of Mines and Geology at the earliest.

***Thus, Greater Warangal Municipal Corporation failed to comply with the provisions of State Government orders relating to levy and remittance of Environment Impact Fee resulting in loss of revenue to Government.***

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<sup>124</sup> 2016-17 ₹ 30.49 lakh, 2017-18 ₹ 18.55 lakh and 2018-19 (Upto 15 January 2019) ₹ 25.41 lakh

## Planning Department

### 3.9 Constituency Development Programme

In the combined State of Andhra Pradesh, Government launched (April 2005) 'Assembly Constituency Development Programme' (Scheme) to enable the Members of Legislative Assembly (MLAs)/Members of Legislative Council (MLCs) to initiate developmental works within their constituencies. The scheme initially implemented during 2005-08 was revived in 2010-11 after a gap of two years, as 'Constituency Development Programme (CDP)', a fully State funded scheme. Major audit findings regarding the scheme were as follows:

- Funds to the extent of 36 *per cent* remained unspent in Personal Deposit Accounts in the test checked districts (CPOs); 60 *per cent* of the funds released to executing agencies in test checked districts were not supported by Utilisation Certificates.
- The Department had no mechanism to ascertain whether the unutilised funds were parked in Personal Deposit Accounts or in bank accounts.

*(Paragraph 3.9.3)*

- Works targeted for completion within the year remained incomplete. Sanctioned works which were to be executed within a maximum period of six months were not completed in time and delays ranged from 188 to 1,169 days.

*(Paragraph 3.9.4.1)*

- Instances of ineligible works, deviation from sanctions as well as overlap (indicating possible duplication of work) with other schemes were also noticed.

*(Paragraphs 3.9.4.2 & 3.9.4.3)*

- Important controls through the Constituency Level Development Monitoring System (CLDMS), inspection of works, Social audit, maintaining digitised photographs, etc., were not exercised.

*(Paragraph 3.9.5)*

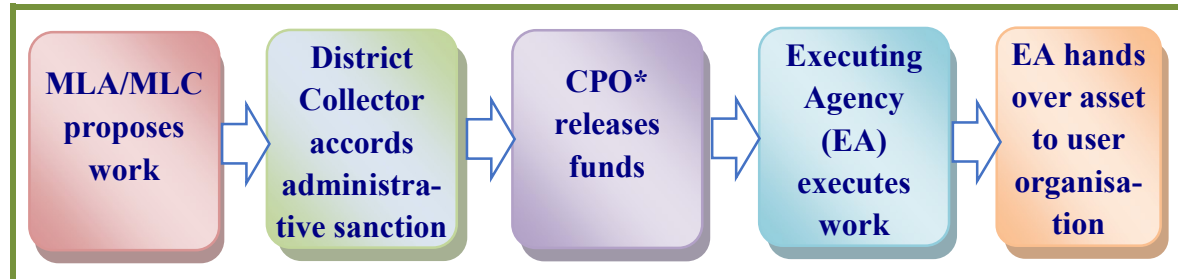
#### 3.9.1 Introduction

##### 3.9.1.1 The scheme

In the combined State of Andhra Pradesh, Government launched (April 2005) 'Assembly Constituency Development Programme' (Scheme). This scheme was launched to enable the Members of Legislative Assembly (MLAs) to initiate developmental works within their constituencies. The scheme initially implemented during 2005-08 was revived in 2010-11 after a gap of two years, as 'Constituency Development Programme (CDP)', a fully State funded scheme. The revived scheme was also extended to Members of Legislative Council (MLCs). There are currently 120 MLA and 40 MLC constituencies<sup>125</sup> in the State out of which 119 MLAs and 34 MLCs were elected and one MLA and six MLCs were nominated by the Governor.

<sup>125</sup> **Graduates Constituency:** three MLCs (in which three erstwhile districts each to two MLCs and four districts to one MLC); **Teachers Constituency:** three MLCs (in which three erstwhile districts each to two MLCs and four districts to one MLC); **Local Authorities Constituency:** 14 MLCs (District-wise allocation); **Assembly Constituency:** 14 MLCs and six MLCs nominated by Governor. Nominated MLCs are permitted to take up works anywhere in the State

The annual allocation<sup>126</sup> (per constituency) of ₹one crore<sup>127</sup> (2006-07) was enhanced<sup>128</sup> by the Government of Telangana (Government) to ₹1.50 crore (2014-15) which was further<sup>129</sup> enhanced to ₹3 crore from the year 2016-17. The scheme is implemented in accordance with the guidelines issued by the erstwhile State of Andhra Pradesh. The procedure for execution of work under the scheme is as follows.



Source: Scheme Guidelines \*Chief Planning Officer

### 3.9.1.2 Scheme guidelines

Scheme guidelines place an emphasis on creation of durable assets with works of developmental nature selected on local needs. These include construction of roads including approach roads; compound wall for burial grounds; Gram Panchayat buildings; reading rooms; etc. Prohibited under the scheme were works already sanctioned or taken up under the Normal Plan funds. Further, utilisation of funds for maintenance, other non-plan works and as revenue expenditure was specifically not permitted under the scheme.

### 3.9.1.3 Audit Scope and Methodology

Audit of the scheme was carried out (April-July 2018) covering the period from 2 June 2014<sup>130</sup> to March 2018 to seek an assurance that the:

- Scheme was implemented in accordance with the Guidelines which envisaged that *MLAs/MLCs place emphasis on Government priority<sup>131</sup> schemes resulting in creation of durable assets, funds are not used for maintenance works, District Collectors (DCs) draw up priority schemes in each village MLA and MLC Constituency-wise, cases of entrustment of works on nomination basis, etc.*
- Selection and prioritisation of works was transparent and without overlap of works under other schemes.
- Works were executed on time and resulted in creation of civic facilities and infrastructure in the Assembly Constituencies.

Audit examined records of the Government in Planning Department (Department), Directorate of Economics and Statistics and Chief Planning Offices (CPOs) in respect of three<sup>132</sup> out of 10 erstwhile districts. Due to re-organisation of districts (October 2016) in

<sup>126</sup> originally ₹50 lakh during 2005-06

<sup>127</sup> ₹50 lakh under MLA/MLC quota and ₹50 lakh under District in-charge Minister quota

<sup>128</sup> GO.Rt.No.10 Planning (VII) Department, dated 12 January 2015

<sup>129</sup> vide GO.Ms.No.19 Planning (VII) Department, dated 12 May 2016

<sup>130</sup> The date from which a separate State of Telangana came into existence

<sup>131</sup> Drinking water facilities, public health care buildings, sanitation and drainage facilities to public, construction of roads, construction of buildings/facilities belonging to Government or Local Bodies for educational institutions need for classrooms/laboratories/toilets, common shelters for the old or handicapped and electrification/street lighting, etc.

<sup>132</sup> Karimnagar, Khammam and Nalgonda districts

the State, Audit selected a sample of nine<sup>133</sup> out of 31 re-organised districts<sup>134</sup>. Districts to be sampled were selected on the basis of 'Probability Proportional to Size without replacement (PPSWOR<sup>135</sup>)' method<sup>136</sup>. A total of 41 Constituencies (34 MLAs and 7 MLCs) were covered in the sampled districts. Audit proposed to conduct joint physical verification of 10 works in each sampled district. As against this, 104 works<sup>137</sup> were actually selected in the nine sampled districts. These works were selected on the basis of parameters that included monetary value, incidence of delays in work and nature of works<sup>138</sup>.

Audit criteria were Scheme Guidelines and Executive instructions/orders issued by the Government from time to time. Entry and Exit meetings were conducted with the CPOs of the districts concerned. Replies of Department to the audit observations have been considered/incorporated at appropriate places in the report.

### **Audit findings**

#### **3.9.2 Planning**

##### **3.9.2.1 District Review Committee**

*Scheme Guidelines stipulate that while taking up works, advice of the MLA/MLC was to prevail. Wherever it was not feasible to execute a work on technical reasons, the same was to be intimated to the MLA/MLC concerned. Such matters should be brought to the notice of the Chairman<sup>139</sup>, District Review Committee (DRC). The decision of Chairman/DRC was to be treated as final.*

The CPOs of sampled districts informed (April-July 2018) Audit that DRCs were not formed after bifurcation of State in 2014-15. Para 3.9.4.2 of this Report refers to 224 cases (estimated cost: ₹5.55 crore) where works were sanctioned on the advice of the MLA/MLC but were in contravention of the guidelines. These deviations could have been avoided if the DRC was formed and the matter resolved at its level.

Government confirmed (January 2019) that DRCs were not formed in any of the districts after formation of the State of Telangana.

#### **3.9.3 Utilisation of funds**

Utilisation of funds is watched through submission of Utilisation Certificates (UCs) from the Executing Agencies (EAs) to the CPO in the districts who furnishes the consolidated

<sup>133</sup> **Karimnagar:** Jagtial, Karimnagar, Peddapalli, Rajanna-Sircilla; **Khammam:** Bhadradi-Kothagudem, Khammam; and **Nalgonda:** Nalgonda, Suryapet, Yadadri-Bhuvanagiri districts

<sup>134</sup> which were part of the original identified districts

<sup>135</sup> A sampling procedure under which the probability of a unit being selected is proportional to the size of the ultimate unit, giving larger clusters a greater probability of selection and smaller clusters a lower probability

<sup>136</sup> Sampling was done on the basis of number of works in erstwhile districts arranged in ascending order and arrived at the cumulative figure. The cumulative figure was divided by the sample size, i.e. three districts to arrive at Interval. The interval was multiplied by value of random number table and selected first district. The value arrived at for first sample was added to the Interval and selected second district. Similarly third district was selected

<sup>137</sup> **Karimnagar:** Jagtial (17 works), Karimnagar (10), Peddapalli (13), Rajanna-Sircilla (10); **Khammam:** Bhadradi-Kothagudem (14), Khammam (10) and **Nalgonda:** Nalgonda (10), Suryapet (10), Yadadri-Bhuvanagiri districts (10)

<sup>138</sup> under the categories of drinking water, construction of Primary Health Centres/Schools including infrastructure facilities provided if any, laying of roads, sewerage works, providing street lights and other categories of works in public interest

<sup>139</sup> District-in-charge Minister was the Chairman of the DRC

UC to the Government. Under the scheme guidelines, *fresh amounts shall not be released by Government to district authorities unless they furnish UCs for previous releases.*

Audit scrutiny revealed that, as against release of funds of ₹1,462.99 crore to 31 districts during 2014-18, UCs were received from CPOs of only three districts for ₹69.58 crore<sup>140</sup>. Planning Department in its review (August 2018) had commented about the non-receipt of UCs from all districts except Karimnagar. Thus UCs were submitted only for five *per cent* of the funds released; only 10 *per cent* of the CPOs complied with the requirement.

Government confirmed (January 2019) the receipt of UCs from these three districts only and assured that UCs would be obtained from the remaining districts and submitted to Audit in due course.

The CPOs upload data pertaining to the value of the works sanctioned and expenditure incurred thereon on a portal called, ‘Constituency Level Development Monitoring System (CLDMS)’. The Department, however, had no mechanism, other than through UCs, to know the amount of balances lying with CPOs in their Personal Deposit (PD) Accounts. Further, the CPOs also had no mechanism to know about the amount of unspent balances lying with the EAs. As a result, funds are transferred to EAs on fresh works notwithstanding the unspent balances already available with them.

Planning Department replied<sup>141</sup>(April 2018) that funds were released to districts to meet the expenditure during the tenure of the respective MLA/MLC. This, however, is in variance with the scheme guidelines which specify the obtaining of UCs in respect of amounts released by Government before any fresh releases are made.

Government stated (September 2018) that the CPOs of the State were instructed (September 2018 vide email) to furnish the details of year-wise opening and closing balances of funds in respect of their districts.

*Chart-3.5* shows the utilisation of funds along the chain in the nine sampled districts. It showed that out of ₹305.89 crore released by the Government to the CPOs during the period 2014-18, ₹196.92 crore was released by CPOs to the Executing Agencies leaving a balance of ₹108.97<sup>142</sup> crore (36 *per cent*) with the CPOs in their respective PD Accounts. This could partly be attributed to the fact that substantial portion of the funds were released by the Government at the end of the financial year. For instance, in 2016-17, out of ₹652.11 crore released to CPOs by the department, funds of ₹225.65 crore (35 *per cent*) were released in March 2017 through five Government Orders issued from 02 March 2017 to 27 March 2017.

Further, in respect of ₹196.92 crore released by the CPOs to the EAs, UCs were provided in respect of ₹78.49 crore (40 *per cent*) only. UCs for ₹118.43 crore (60 *per cent*) were not furnished by the EAs. Thus, a total of ₹227.40 crore<sup>143</sup> remained either unspent in PD Accounts or was not supported by UCs, representing 74 *per cent* of the funds released during the period 2014-18 providing no assurance of the nature of expenditure.

<sup>140</sup> Karimnagar: ₹68.50 crore for 2014-17; Jayshankar-Bhupalapally: partially to the extent of ₹1.06 crore for 2016-17 and Nirmal: partially to the extent of ₹0.02 crore for 2016-17

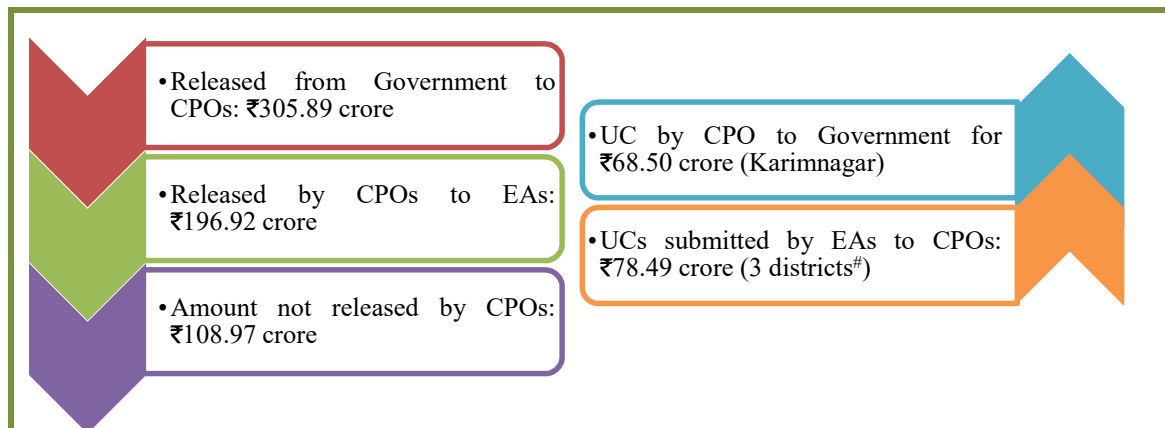
<sup>141</sup> vide its reply Letter No. 3479/CDP/Plg. VII/2017, dated 12 April 2018

<sup>142</sup> 2014-15:(-) ₹11.87 crore; 2015-16: ₹10.11 crore; 2016-17: ₹50.79 crore and 2017-18: ₹59.94 crore

<sup>143</sup> ₹118.43 crore lying with/non-furnishing of UCs by EAs and ₹108.97 crore lying with CPOs

Government stated (September 2018) that the progress of works was being monitored regularly with DCs who were directed to submit UCs along with reasons for slow progress and non-grounding of works (i.e., works not started). Audit was assured that these would be furnished after obtaining the same from DCs.

**Chart-3.5: Release and utilisation of funds in sampled districts**



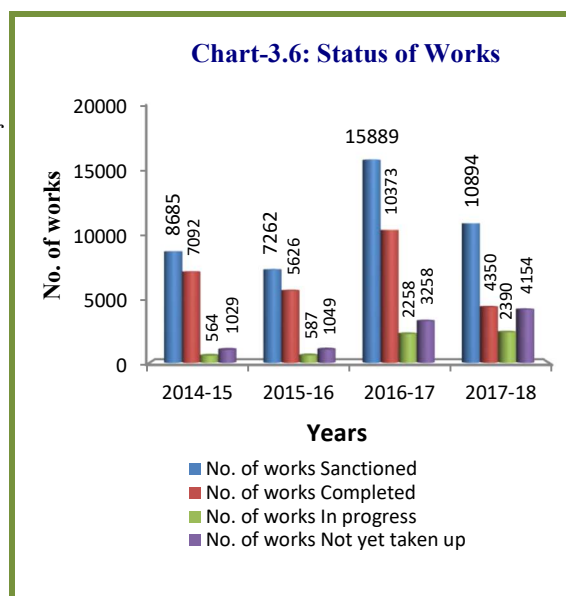
Source: Information furnished by respective CPOs

#Nalgonda: ₹72.78 crore; Rajanna-Sircilla: ₹1.13 crore and Yadadri-Bhuvanagiri: ₹4.58 crore

### 3.9.4 Execution of works

#### 3.9.4.1 Progress of Works

Scheme Guidelines stipulate that *all sanctions for works should be accorded within a period of 30 days from the date of receipt of proposal in the office of the DC. The sanctioned works were to be executed within a maximum period of six months. Chart-3.6 illustrates the status of works. During 2014-18, 42,730 works were sanctioned in the State. Of these, 27,441 (64 per cent) works were only completed, 5,799 (14 per cent) works were in progress and 9,490 (22 per cent) works not yet started as of August 2018.*



Government stated (January 2019) that the district administration of Peddapalli, Bhadradri-Kothagudem and Rajanna-Sircilla had attributed administrative reasons for delays in according sanctions.

As per the position indicated in the CLDMS data there were no cancelled works. Further, there is no specific provision in the CLDMS for exhibition of cancelled works. During physical verification of works in the district of Bhadradri-Kothagudem it was noted that there were two cancelled works. Audit was not in a position to ascertain the State-wide status of the cancelled works. Audit further analysed the time lags in completion/progress



of 104 works (out of 11,968 works) taken up and due to be completed in 2014-18 in the selected districts.

Table-3.6

| Sanction                            | Number of works completed in |                 |           |           |           | Number of works in progress | Total      |
|-------------------------------------|------------------------------|-----------------|-----------|-----------|-----------|-----------------------------|------------|
|                                     | within 6 months              | 6 months-1 year | 1-2 years | 2-3 years | Total     |                             |            |
| Up to ₹5 lakh                       | 36                           | 17              | 3         | 1         | 57        | 14                          | 71         |
| Above ₹5 lakh and up to ₹10 lakh    | 4                            | 4               | 1         | 1         | 10        | 3                           | 13         |
| Above ₹10 lakh and up to ₹20 lakh   | 6                            | 3               | 3         | 0         | 12        | 4                           | 16         |
| Above ₹20 lakh and up to ₹50 lakh   | 2                            | 1               | 0         | 0         | 3         | 0                           | 3          |
| Above ₹50 lakh and up to ₹one crore | 0                            | 0               | 0         | 0         | 0         | 1                           | 1          |
| <b>Total</b>                        | <b>48</b>                    | <b>25</b>       | <b>7</b>  | <b>2</b>  | <b>82</b> | <b>22</b>                   | <b>104</b> |

Source: CLDMS data

The data showed that:

- Most of the works were of value of less than ₹5 lakh only. Some of the larger works were also split to smaller bundles of up to ₹5 lakh to facilitate assigning of works on nomination basis<sup>144</sup>. Audit observed that 14 works were split into 38 works<sup>145</sup> (estimated cost: ₹1.51 crore and expenditure: ₹1.01 crore).
- Of the total 104 works, 82 works (79 per cent) were completed. Only 48 works (46 per cent) were, however, completed within the stipulated time of six months. Delays exceeded one year in respect of nine works.
- 22 works representing 21 per cent of the total, although scheduled for completion, were in progress. Delays ranged from 188 to 1,169 days.

Government attributed (January 2019) the site/local problems for the delay and stated that the DCs were instructing the EAs to complete the sanctioned works within stipulated time limit during the review meetings.

Audit also observed incidence of sanctioned works not started which was particularly high in Rajanna-Siricilla (50 per cent) followed by Peddapalli (49 per cent), Khammam (42 per cent). CPOs of the respective districts attributed the delays to problems at site (Khammam district) and lack of supervision by higher authorities<sup>146</sup>. Chief Planning Officers (CPOs) of Rajanna-Siricilla and Yadadri-Bhuvanagiri districts stated that despite efforts<sup>147</sup>, works took time for actually starting as well as completion by the EAs.

<sup>144</sup> As per guidelines, entrustment of works on nomination basis should be avoided. State Government directed (July 2010) that execution of works up to ₹5 lakh can be entrusted to Village Works Committees (VWCs)/Self Help Groups (SHGs)/User Groups consisting of stake holders

<sup>145</sup> Bhadradi-Kothagudem: nine works (estimated cost: ₹0.42 crore; expenditure: ₹0.23 crore); Karimnagar: nine works (₹0.30 crore; ₹0.30 crore); Khammam: 10 works (₹0.34 crore; ₹0.32 crore); Peddapalli: seven works (₹0.30 crore; ₹0.06 crore) and Suryapet: three works (₹0.15 crore; ₹0.10 crore)

<sup>146</sup> in respect of Bhadradi-Kothagudem, Jagtial and Peddapalli districts

<sup>147</sup> i.e., correspondence, review meeting and video conferences

Delays in completion of works resulted in blocking of scheme funds with the EAs. In the absence of UCs, a close watch at the Departmental and at the level of CPOs, could not be exercised.

Government did not specify any reasons in its reply.

### 3.9.4.2 Ineligible works

Scheme Guidelines stipulate that *the works under the scheme shall be developmental in nature, based on locally felt needs and the emphasis is on creation of durable assets. Works eligible for sanction under the scheme are listed out in Appendix-I of scheme guidelines.* A specific condition that works should be executed only in Government land/area is prescribed by CPOs while issuing administrative sanctions.

Observations in regard to ineligible works in districts selected as sample are detailed hereunder.

| Criteria  | Audit observation   |
|---|---|
| <i>The works under the Scheme shall be developmental in nature, based on locally felt needs and the emphasis is on creation of durable assets</i> | <p>a) Laying of 151 gravel roads (and hence not of permanent nature) at a cost of ₹3.35 crore were sanctioned in six<sup>148</sup> test checked districts during 2014-18.</p> <p>b) In Khammam district, 61 works of Granular Sub-base<sup>149</sup>(GSB; not of permanent nature) were administratively sanctioned but 'not started' (estimated cost: ₹1.92 crore). Government in its reply (January 2019) stated that the District administration was according sanctions for gravel road works on the basis of needs of rural areas. This however was contrary to the scheme guidelines, where emphasis was on creation of durable assets.</p> |
| <i>Works which are included in Appendix-I of CDP scheme guidelines should only be executed.</i>   | In Jagtial district, nine ineligible works <sup>150</sup> costing ₹17.80 lakh were sanctioned. CPO replied that based on the proposals received from MLAs, the works were examined and sanctioned.  |
| <i>As per Sl.no.9 of the CDP Guideline, maintenance works should not be taken up</i>  | In Karimnagar district, Black topping (BT) renewal works at three locations were executed (November 2016) at a cost of ₹9.95 lakh. The CPO stated (July 2018) that works were sanctioned as per the proposals of MLAs/MLCs and District In-charge Minister. Government stated (January 2019) that, the district authorities were instructed not to sanction repairs/maintenance works.  |

### 3.9.4.3 Overlapping work

Scheme guidelines stipulate that *works proposed should be fully funded without creating any spill over and additional liability to Government.* Audit scrutiny revealed that, a school building at Patha-Kothagudem was sanctioned (November 2016; ₹one crore)

<sup>148</sup> Bhadradi-Kothagudem: 62 (₹1.50 crore); Jagtial: three (₹0.02 crore); Karimnagar: 40 (₹0.88 crore); Khammam: 22 (₹0.58 crore); Nalgonda: 23 (₹0.36 crore) and Yadadri-Bhuvanagiri: one (₹0.01 crore)

<sup>149</sup> well graded unbound material, usually crushed stone, crushed slag, crushed concrete or another inert hard material

<sup>150</sup> Like construction of milk dairy building cattle trough and mini tank, erection of pipeline and motor, replacement of pumpset, construction of new VO building, compound wall to community halls, gravel filling at old well, ground levelling

under Special Development Fund (SDF) in 2016-17. This school was taken up under CDP scheme with a sanction (February 2018) of ₹42 lakh. It was observed that the items of work<sup>151</sup> for which CDP funds of ₹42 lakh released were also included in the estimates under SDF. The EA<sup>152</sup> accepted (June 2018) the overlap but stated that these items would not be executed. The work was in progress.

Government stated that the work of construction of school building was not handed over to user agency pending receipt of completion report from Engineer-in-Chief (ENC) office. Government did not furnish any specific reasons for overlapping work under both the schemes.

***Ineligible and overlapping works represent misutilisation of funds on items that do not fall within the objectives of the scheme, creating additional liability to Government.***

#### 3.9.4.4 Results of joint physical verification

Audit conducted joint physical verification of 10 works in each selected district, thus covering 104 works costing ₹8.46 crore. Infractions were found in respect of 10 works costing ₹0.88 crore as tabulated below:

**Table-3.7**

| Nature of irregularity                            | No. of works | Estimated cost (₹ in lakh) |
|---|--------------|----------------------------|
| Asset not used due to faults, disrepair or misuse | 3            | 48.03                      |
| Funds not utilised as per sanction                | 3            | 23.00                      |
| Works not on Government property                  | 2            | 7.46                       |
| Incomplete works                                  | 1            | 5.00                       |
| Works not of permanent nature                     | 1            | 5.00                       |
| <b>Total</b>                                      | <b>10</b>    | <b>88.49</b>               |

Further details are furnished below:

| Nature of irregularity  | No. of works | Estimated cost (₹ in lakh) |
|---|--------------|----------------------------|
| <b>1) Asset not used due to faults, disrepair or misuse</b>   | <b>3</b>     | <b>48.03</b>               |
| <ul style="list-style-type: none"> <li>One of the conditions of sanction order stipulates the maintenance and upkeep of the asset created under the scheme by the department/local body concerned from their department funds. Drains were constructed (April 2017) at Vikalangula Colony, Palvancha (mandal), Bhadradi-Kothagudem district by incurring an amount of ₹17.75 lakh (estimated cost: ₹20 lakh). The drains were filled with mud/sand/metal etc., at three places due to which flow of sewage was obstructed.</li> </ul> |              |                            |

<sup>151</sup> providing and applying wall putty of white cement of polymer, flooring with nano polished soluble salt porcelain vitrified tiles, providing skirting to internal walls, supply and fixing sliding doors, providing and fixing flush door shutters, aluminium tower bolts, aldrop, fancy handles, door stopper, painting to new walls and electrification of the building

<sup>152</sup> Deputy Executive Engineer, Panchayat Raj Sub Division, Kothagudem

- Vegetable Market <sup>153</sup> constructed (April 2017) by incurring an expenditure of ₹8.01 lakh (estimated cost: ₹10 lakh) was kept idle due to poor response of customers and the vegetable vendors moving to other places and thus could not be used for the intended purpose. Further, it was misused by keeping some wooden logs and scrap material by some unknown persons. Government assured corrective action in respect of these two issues. Thus, the purpose for which the above two works were executed was defeated and ₹25.76 lakh became infructuous.



Figure-3.7: Vegetable market constructed was kept idle

(22 June 2018)

- DGPS<sup>154</sup> equipment (costing ₹22.27 lakh<sup>155</sup>) could not be used for land regularisation in the district due to close proximity to town. The instrument did not work properly under the roof (while recording geo reference points) in town area with Reinforced Cement Concrete (RCC) buildings. Thus the equipment expected to be used in settling applications relating to regularization of town lands, could not be used.

Government stated (January 2019) that the instrument was being used in Government Hospital survey and Gurukul schools. The objective for which the equipment was procured was, however, not met.

|  |          |              |
|--|----------|--------------|
| <b>2) Funds not utilised as per sanction</b> | <b>3</b> | <b>23.00</b> |
|--|----------|--------------|

- Sanction was given for construction of indoor shuttle stadium at Nakrekal, Nalgonda district (estimated cost: ₹5 lakh), but the funds were utilized for painting and land-scaping of existing stadium.
- Sanction was accorded (April 2015) for the work 'Construction of Reading room and Library near Zilla Parishad Office, Nalgonda'. Further, no photos before commencement of work were available in file. As per Measurement Book, funds (estimated cost: ₹5 lakh) were utilized (₹4.75 lakh) for painting, wood work and other miscellaneous works which were not included in the sanction. The CPO stated that replies to the observations would be obtained from the EA (DPRE<sup>156</sup>) concerned.
- In the work (estimated cost: ₹13 lakh), 'Construction of additional class rooms (two nos.) at Primary school, Isthapuram', instead of 'flooring with polished shabad stones (Thandur blue variety)' as per sl.no.13 of Specification Report, rough shabad stones were laid. Moreover, stones were laid unevenly causing inconvenience to primary school children. When this issue was brought to the notice of the authorities concerned (June 2018), it was replied that the reasons for the change in the scope of work would be called for from the EAs. Further reply in this regard had not been received till date.

Government did not furnish any specific reply to these issues.

<sup>153</sup> in front of Rajiv Gruhakalpa at Ward No.23 in Kothagudem Municipality

<sup>154</sup> Differential Global Positioning System to settle the pending applications relating to regularization of lands at the office of Assistant Director of Survey & Land Records, Bhadradi-Kothagudem

<sup>155</sup> ₹10 lakh from CDP funds and ₹12.27 lakh from Crucial Balance Fund

<sup>156</sup> District Panchayat Raj Engineer

**3) Works not on Government property**

2

7.46

- As per sanction condition 11 of the work, no works are allowed to be taken up in a private land/ territory; it is to be ensured that the site of construction as well as the created asset is owned by the Government. A work was sanctioned (July 2017; estimated cost and expenditure: ₹5 lakh) for ‘Construction of Out- Patient block in TKV Rangacharyulu, Ranganayakamma Lions Club Eye Hospital at Miryalaguda town, Nalgonda district’ which was not a Government property. It was also observed, that funds were instead used on items not covered in the sanction<sup>157</sup>.



*Figure-3.8: Construction of OP block in private land (02 May 2018)*

- The CDP work should be executed in Government land. 63 KV transformer, however, at an estimated cost of ₹2.46 lakh was erected inside the compound wall of the Masjid which was not a Government property. Although the CPO was specifically asked the reasons for installing the transformer inside the compound wall of the Masjid, no reasons were furnished.

Government did not furnish any specific reply to these issues.

**4) Incomplete works**

1

5.00

Condition No.6 of administrative sanction for the work stipulates that the site of the construction/creation of the asset must be owned by the Government. No work shall be taken up in private land/territory. If any work is executed in private lands, relinquishment certificate should be obtained in favour of Government well in advance before execution of the works. Scrutiny of the work ‘Construction of Mahila Sangham Building (MSB)’ (estimated cost: ₹5 lakh) at Kajipoor village in Karimnagar district (sanctioned in August 2015)



*Figure-3.9: Incomplete Mahila Sangam building (07 July 2018)*

revealed that the building was still in semi-finished stage (July 2018) with doors & windows panes, flooring and electrification still remaining to be completed (expenditure incurred: ₹4.93 lakh). Further, there was no record to show that the site was Government land. If it was donated, no certificate of relinquishment of ownership was found in records. The EA (DPRE) replied that the necessary certificate would be obtained.

Government did not furnish any specific reply to the issue.

<sup>157</sup> painting, providing sliding window panels, fixing of high polished granites and construction of compound wall


| 5) Works not of permanent nature  | 1   | 5.00 |
|---|---|------|
| <p>The work (estimated cost: ₹5 lakh) 'Formation of Ghat Road from Indiramma Colony towards Sri Laxminarasimha Swamy Temple Hillock at Rekurthi village, Karimnagar (mandal &amp; district)' was completed (December 2016) incurring an expenditure of ₹5 lakh. The same was damaged due to soil erosion during rainy season and it was covered with small bushes and plants at the starting point. EA accepted the audit observations and stated that it would be rectified by laying a cement paved road. Government did not furnish any specific reply to the issue.</p> |  |      |

Figure-3.10: Formation of ghat road (07 May 2018)

### 3.9.5 Monitoring

#### 3.9.5.1 Digitised photographs

Scheme guidelines stipulate that the *district authorities should maintain and submit the digitised photographs of the assets created along with the site photographs before and after the works were carried out.* While according administrative sanction, the CPOs had reiterated the same to the EAs. None of the test checked districts, however, maintained photographs of works before their execution. The CPOs stated that despite clear instructions in administrative sanctions, photographs of before work were not being received from EAs.

Government stated (January 2019) that the DC had issued necessary instructions to all EAs to ensure compliance.

***Thus an important control on utilisation of funds on sanctioned works was lost.***

#### 3.9.5.2 Inspection of works

For effective implementation of works, District officials appointed by the Collector shall visit and inspect at least 10 *per cent* of the works every year. It was also the responsibility of senior officers of EAs of these works to regularly visit all the work spots and ensure that the works are progressing satisfactorily as per prescribed procedures and specifications.

Six CPOs<sup>158</sup> out of nine test checked in audit admitted that no inspections were carried out. They attributed the non-compliance to work pressure; districts being newly formed and because detailed guidelines on inspections were not received. In respect of other CPOs, the inspections were carried out only in few mandals. Details of inspection reports, percentage of works checked, etc., in mandals were, however, not furnished to Audit.

Government attributed the shortfall in inspections to bifurcation of staff (Karimnagar) among newly created districts with the manpower being highly insufficient to inspect

<sup>158</sup> Karimnagar, Khammam, Rajanna-Siricilla, Bhadradri-Kothagudem, Jagtial and Peddapalli districts

the works physically. It was stated that the Special Officers appointed to the mandals (Peddapalli and Nalgonda) had been instructed to inspect the ongoing/completed works. It was also assured that inspection of works would be done hereafter (Bhadradi-Kothagudem).

***In the absence of regular inspections monitoring of works could not be assured.***

### **3.9.5.3 Audit of Annual accounts by State Audit Department**

Scheme guidelines stipulate that *the Annual accounts of each district should be submitted to the Director of Local Fund Audit (State Audit Department) by 15<sup>th</sup> of May of the succeeding year for taking up audit.* Audit found delays in submission of annual accounts by CPOs to State Audit Department as discussed below:

- In four<sup>159</sup> out of nine districts selected as sample, Annual accounts were not prepared since inception (October 2016) of the office.
- CPO, Khammam submitted annual accounts for the years 2014-15 to 2016-17 with a delay of 791, 458 and 241 days respectively.
- CPO, Karimnagar submitted annual accounts for 2014-15 and 2016-17 with a delay of 386 days and 112 days respectively.
- In all the test checked districts, annual accounts for the year 2017-18 were yet to be submitted as of July 2018 by respective CPOs.

Government stated (January 2019) that, the Director, State Audit Department had been directed<sup>160</sup> to conduct audit of annual accounts in all the districts within a period of six months.

***Due to delayed/non-submission of accounts, audit of these accounts are in arrears. As a result, there is minimum possibility of initiating corrective action on areas of concern pointed out in audit. This reflects failure of internal control mechanism.***

### **3.9.5.4 Social audit**

As per the orders issued (July 2010) by the Government, *the DC/CPO shall arrange to conduct Social audit to ensure accountability, quality and transparency in execution of works under CDP.* No Social audit on CDP was, however, conducted in any of the test checked districts.

Government stated (January 2019) that Social audit was not conducted in any of the districts.

***Hence, the envisaged mechanism for accountability, quality and transparency in the execution of works could not be ensured.***

### **3.9.5.5 Quality Control tests**

*As per the instructions of Administrative sanctions, for any work Quality Control (QC) tests have to be conducted by the EAs.* QC Certificate is required for all works before final payment. QC checks had, however, not been conducted by the EAs in two<sup>161</sup> test checked districts and payment had been made without the QC certificate.

<sup>159</sup> Bhadradi-Kothagudem, Jagtial, Peddapalli and Rajanna-Sircilla districts

<sup>160</sup> vide Government Memo No. 3033/CDP/Plg. VII/2017, dated 23 January 2019

<sup>161</sup> Nalgonda and Yadadri-Bhuvanagiri

Government stated (January 2019) that instructions had been issued to the EAs for conduct of QC tests.

### 3.9.5.6 Constituency Level Development Monitoring System (CLDMS)

Constituency Level Development Monitoring System (CLDMS) application software has been developed by National Informatics Centre, Telangana. This software aims to monitor the works of CDP, SDF and Member of Parliament Local Area Development (MPLAD) Scheme. The monitoring is envisaged right from the receipts of proposals from the MPs, MLAs & MLCs to completion of works by the different EAs. Apart from the aforementioned features, providing auto generated statements, custom level reporting, unspent amount available with the EAs etc., are also envisaged.

Audit analysis of CLDMS data revealed that the data is not being captured accurately and updated to reflect the latest status as discussed below:

- Details of unspent balance with EAs are not available in CLDMS.
- In Bhadradi-Kothagudem district, out of 14 works selected for physical verification, the status of seven works was found different from the data made available by the office as detailed in *Appendix-3.9*. CPO replied that Monthly Progress Report (MPR) of CDP works, UCs and expenditure particulars were not furnished by the EAs to the CPO. Thus, actual status of expenditure under the scheme was not available with the office.
- In Jagtial district, as per CLDMS data, 467 works were completed, however, details of actual date of completion were not available. CPO replied that EAs were not furnishing the MPRs regularly, status of completion date and handing over the work to user agency. Further, 856 out of total 1,865 works during 2014-18 were recorded as not reported, not started, and left blank. The Office had, however, not taken any action to know the exact status of works. No action had been taken against the EAs for non-submission of information. It was replied that due to heavy work load and non-availability of sufficient staff, CPO had not pursued the matter.
- In Nalgonda district, data was not matching with the MPR of March 2018 as detailed in Table 3.8.

**Table-3.8**

(Value: ₹ in lakh)

|   | Sanctioned   |          | Completed    |          | In progress  |       | Not started  |          | Total Expenditure |
|---|--------------|----------|--------------|----------|--------------|-------|--------------|----------|-------------------|
|   | No. of works | Value    | No. of works | Value    | No. of works | Value | No. of works | Value    |                   |
| CLDMS   | 3,461        | 7,458.53 | 2,509        | 5,136.48 | 11           | 27.50 | 941          | 2,232.45 | 5,163.98          |
| MPR data furnished by the Office to Secretariat | 3,248        | 7,002.61 | 2,564        | 5,191.10 | 13           | 32.50 | 671          | 1,688.33 | 5,223.50          |
| Variation                                       | 213          | 455.92   | -55          | -54.62   | -2           | -5.00 | 270          | 544.12   | -59.52            |

Source: CLDMS/department data



CPO replied that due to delay in uploading data at every level the variation exists. Steps would, however, be taken to update the data immediately and mis-match level of data minimized.

- Data furnished by CPO, Karimnagar district upto May 2018, stated that ‘Not started works’ as ‘Zero’ where as the CLDMS data showed that 564 works worth ₹1,370.02 lakh were listed as ‘not yet started’. There was discrepancy in exhibition of ‘not started works’ in the CDP data maintained at Office and CLDMS data.
- As per review of physical and financial progress of the works conducted by the Planning Department and communicated (May 2018) to the Rajanna-Siricilla district, the CDP data in the CLDMS was not updated.

The CPO, Rajanna-Siricilla district replied that the CDP data in the CLDMS was being updated as per the instructions of the Government (July 2018).

Government stated (January 2019) that all the DCs had been instructed to update the CLDMS system every month.

### **3.9.6 Conclusion**

*The budget releases were not supported by utilisation details. 60 per cent of the funds released to Executing Agencies in test checked districts were not backed by Utilisation Certificates. Funds to the extent of 36 per cent remained unspent in Personal Deposit Accounts in the test checked districts (CPOs); The Department had no mechanism to watch unutilised funds parked in Personal Deposit Accounts. Works targeted for completion within the year remained incomplete. Instances of ineligible works, deviation from sanctions as well as overlap (indicating possible duplication of work) with other schemes were also noticed. Important controls through the Constituency Level Development Monitoring System (CLDMS), inspection of works, Social audit, maintaining digitised photographs etc., were not exercised.*

### **3.9.7 Recommendations**

- (i) District Review Committees should be formed to facilitate decision making with regard to ineligible works recommended by the MLAs/MLCs.
- (ii) Submission of UCs must be insisted and a mechanism instituted to keep track of the unspent balances at the State level, district CPOs and EAs.
- (iii) CLDMS data and Monthly Progress Reports should be validated to reflect the reality on real time basis.
- (iv) Inspection and Social audit on the implementation of Constituency Development Programme should be conducted.

## Health, Medical and Family Welfare Department

### 3.10 Strengthening and upgradation of State Government Medical Colleges for increase in PG seats

**The objective of increasing the Post Graduation seats and the commensurate increase in infrastructural facilities in the three identified medical colleges could not be fully achieved as the funds committed were not applied to the project**

Government of India (GoI)<sup>162</sup> launched (November 2008) during the 11<sup>th</sup> plan period (2007-12) a Centrally Sponsored Scheme “**Strengthening and upgradation of State Government Medical Colleges for increase in PG seats**”. Three Government Colleges in Telangana State were identified<sup>163</sup> (April 2011) under the Scheme. These were (i) Osmania Medical College (OMC), Hyderabad (ii) Kakatiya Medical College (KMC), Warangal and (iii) Gandhi Medical College (GMC), Secunderabad.

The objectives of the scheme were to strengthen the infrastructure (buildings, equipment) in the medical colleges in order to facilitate increase in seats for Post Graduation (PG) courses in identified disciplines<sup>164</sup>. Directorate of Medical Education (DME) was the nodal agency for implementation of the Scheme. The civil works and procurement of equipment<sup>165</sup> was to be done through Telangana State Medical Services & Infrastructure Development Corporation<sup>166</sup> (Corporation).

The Scheme was to be jointly funded with the State Government on 75:25 basis, which was later revised (May 2017) to 60:40. The conditions of grant *inter alia* were:

- On release (October 2011) of the first instalment<sup>167</sup> from GoI directly to the Medical colleges, the State Government was also required to release the first instalment of its share.
- Subsequent instalments would be released on receipt of Utilisation Certificates (UCs) on the first instalment, from the Colleges.
- In case the stipulated number of PG seats were not created as envisaged, the funds mis-utilised/un-utilised were to be returned along with interest.
- The permission to increase PG seats was granted on the condition that the State Government would provide budgetary support until all facilities are provided. The State Government would also bear the recurring expenditure on maintenance of the facilities after the plan period.

Later, the Scheme period was extended (May 2018) up to 2018-19.

<sup>162</sup> the Ministry of Health & Family Welfare

<sup>163</sup> State Government submitted proposals to GoI in June 2009 indicating the list of 10 medical colleges in the undivided State of Andhra Pradesh. The proposals were approved by the Empowered Committee of GoI in April 2011

<sup>164</sup> as per the instructions of DME

<sup>165</sup> Equipment which cost less than ₹5 lakh can be procured by Principals of the Medical Colleges as per DME order (August 2012)

<sup>166</sup> prior to bifurcation and de-merger, the Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC)

<sup>167</sup> OMC: ₹16.45 crore; KMC: ₹3.97 crore and GMC: ₹3.15 crore

Audit conducted (March 2018 - August 2018) in the three Government Medical colleges and in the Office of the DME, revealed the following (*Appendix-3.10* gives further details):

- The 1<sup>st</sup> instalment of ₹23.57 crore was released (October 2011) by GoI but the State Government did not release its matching share despite requests<sup>168</sup> from the colleges.
- GoI intimated (June 2013) that in the absence of release of matching State share, it would not be possible to release further funds. Rupees 17.19 crore was, however, released (September 2018) by GoI as 2<sup>nd</sup> instalment after the extension of the scheme period. The total GoI releases amounted to ₹40.76 crore which was not matched by State share of ₹25.09 crore.
- The infrastructure facilities in the colleges were to be increased commensurate with the increase in PG seats. The Technical Empowered Committee had recommended civil works costing ₹18.70 crore and purchase of equipment worth ₹40.84 crore in the three colleges: a total of ₹59.54 crore on creation of infrastructure. The colleges could spend only ₹14.61 crore being 25 per cent of the total sum approved by the Committee.
- None of the Medical Colleges had spent the amounts released in respect of faculty although there was shortfall in faculty.
- As a result, 36 per cent of the funds received (including the second instalment of GoI) on the scheme were spent. UCs were given to GoI for a total sum of ₹21.01 crore (including interest accrued) by the Medical Colleges.

#### ***Irregularity in submission of UCs***

*Osmania Medical College incurred expenditure of ₹07.78 crore out of ₹16.45 crore released by GoI. UC was, however, furnished for ₹13.91 crore. The college in its reply (November 2018) stated that the UC furnished (June 2018) to GoI was in respect of funds released to the executing agency - Telangana State Medical Services & Infrastructure Development Corporation (TSMSIDC). Audit also observed that an amount of ₹5.28 crore was still available with TSMSIDC. Thus, the college submitted the UC without actually incurring expenditure on the envisaged items of the scheme.*

- The Scheme has not been fully implemented in any of the three identified Medical Colleges. 60 per cent (168 seats) of the envisaged 279 seats were increased in the identified disciplines.

Thus, despite release of entire GoI share of funds for the scheme, non-release of funds by the State Government coupled with inability of the colleges to expend the funds sanctioned led to shortfall in increase (40 per cent) of PG seats to the extent and the commensurate creation of infrastructure.

The matter was reported to Government in August 2018 and reminded in October 2018; their reply is awaited.

<sup>168</sup> (i) Principal, OMC in December 2011, August 2014 and May 2017 (ii) Principal, GMC in April 2013 and (iii) Principal, KMC in February 2015, October 2015 and December 2015

### 3.11 Non-functional Multi-disciplinary Research Units (MRUs)

**Failure to meet the project milestones and pre-requisites as per GOI time schedule coupled with non-release of subsequent funds by GoI resulted in non-functioning of the MRUs. The objective of bridging the gap in the infrastructure in the Medical Colleges and promoting research in non-communicable diseases having impact on public health remained unachieved**

Government of India (GoI) introduced (June 2013) a scheme for 'Establishment of Multi-disciplinary Research Units (MRUs)' in Government Medical Colleges during the 12<sup>th</sup> Plan period. Eighty MRUs<sup>169</sup> were to be established across the country in a phased manner to undertake research in non-communicable diseases and other need based research<sup>170</sup>. The scheme also envisaged bridging the gap in infrastructure in the Medical Colleges. The scheme was to be implemented with the active involvement of State Health Departments in consultation with Department of Health Research (DHR), Ministry of Health, GoI.

Two MRUs viz., Osmania Medical College (OMC) (July 2013) and Gandhi Medical College (GMC) (April 2015) at Hyderabad were sanctioned in Telangana State. Memorandum of Agreement (MoA) was signed<sup>171</sup> between the State Government and DHR, MoH, GoI.

The GoI envisaged funding pattern included, one time financial assistance of ₹5.25 crore (civil works: ₹0.25 crore; Equipment: ₹5 crore). In addition, GoI was also to fund recurring expenditure of ₹34.23 lakh<sup>172</sup> per annum for a period of five years. First instalment of one-time grant of ₹1.25 crore was released<sup>173</sup> after signing of the MoA. Release of subsequent instalments was linked to meeting pre-conditions<sup>174</sup> and achievement of scheme milestones by the Medical Colleges.

The MoA identified the role of the State Government in respect of the following:

- provide the requisite space (free of cost) for establishment of MRU in the Medical College.
- take over of the recurring expenditure liability of the MRU after the project period of five years.
- identification of research priorities and projects, etc., after the establishment of MRU

Scrutiny of scheme records<sup>175</sup> revealed that the MRU was not operational as the scheme was beset with delays and lack of funds. These are detailed as follows:

<sup>169</sup> 2013-14: 35; 2014-15: 45

<sup>170</sup> As recommended by Local Research Advisory Committee constituted for the purpose

<sup>171</sup> OMC: August 2013; GMC: April 2015

<sup>172</sup> contractual staff: ₹19.23 lakh; consumables/training/contingencies: ₹15 lakh

<sup>173</sup> OMC: October 2013; GMC: July 2015

<sup>174</sup> Release of 2<sup>nd</sup> instalment was subject to: (a) completion of civil works (b) Constitution of Local Research Advisory Committee (LRAC) and Development of research projects (c) Placement of orders for procurement of equipment with clear delivery schedule (d) completion of the process of selection of contractual staff. Release of 3<sup>rd</sup> instalment was subject to (a) holding of at least two meetings of Research Committees (b) certification of appointment of contractual staff after release of 2<sup>nd</sup> instalment and (c) review of performance by Indian Council of Medical Research (ICMR) Evaluation Committee

<sup>175</sup> OMC: July 2018; GMC: August 2018

| Deliverables  | Audit observations  |
|---|---|
| <b>Osmania Medical College</b>  |   |
| <b>Civil works: To be completed by 2013-14</b>  | <b>Status: Completed</b> with a delay of 20 months due to: <ul style="list-style-type: none"> <li>➤ Delay in entrustment of work: 11 months</li> <li>➤ Delay in completion of work: 9 months</li> <li>➤ Completed in: September 2015</li> <li>➤ Total cost incurred: ₹24.27 lakh</li> </ul>   |
| <b>Procurement of Equipment: To be completed by 2015-16</b> <sup>176</sup> . The procurement process of equipment was to commence simultaneously along with the civil works | <b>Status: Not completed</b> by the Medical College due to: <ul style="list-style-type: none"> <li>➤ Procurement commenced in December 2014 after a delay of 14 months.</li> <li>➤ Utilisation Certificate (May 2018) forwarded to GoI showed purchase of equipment<sup>177</sup> worth ₹one crore of which: <ul style="list-style-type: none"> <li>• Admissible expenditure: ₹60.67 lakh</li> <li>• Inadmissible expenditure: ₹37.16 lakh<sup>178</sup></li> <li>• Unspent balance with OMC: ₹10 lakh (including bank interest)</li> </ul> </li> </ul> |
| <b>Appointment of contractual staff: The process to engage contractual staff was to commence in the 2<sup>nd</sup> year of sanction i.e., 2014-15</b>                       | <b>Status: No contractual staff in place in the MRU</b> <ul style="list-style-type: none"> <li>➤ OMC hired (July 2015) contractual staff (Research Scientist and Lab Assistant) utilising funds (₹25.50 lakh<sup>179</sup>) from the one-time grant received (October 2013) for purchase of equipment.</li> <li>➤ Due to non-release of funds either from GoI or State Government towards the salaries, the contractual staff were forced to resign. The lab technicians were also not continued by the college for want of funds.</li> </ul>           |
| <b>Formation of Local Research Advisory Committee (LRAC):</b>   | <b>Status: LRAC formed in September 2015.</b> <ul style="list-style-type: none"> <li>➤ Research projects identified: Seven</li> <li>➤ Research projects approved: Five</li> <li>➤ Status of the projects completed: Not made available to Audit</li> </ul>  |

Principal, OMC stated (September 2018) that the staff were recruited as per the direction of the DHR Inspection team which visited OMC in November 2014. Certain activities had been undertaken by MRU with the staff recruited on contract basis. MRU in OMC, however, remained non-functional since July 2017. OMC attributed (July 2018) the delay in establishment of MRU to State bifurcation issue and the non-functioning of MRU to non-release of 2<sup>nd</sup> instalment by GoI. Incidentally, OMC requested GoI (May 2018) to release the 2<sup>nd</sup> instalment after completion of the Scheme period.

<sup>176</sup> 2013-14: ₹one crore; 2014-15: ₹2 crore and 2015-16: ₹2 crore

<sup>177</sup> 2013-14: Nil; 2014-15: ₹1.57 lakh; 2015-16: ₹46.71 lakh; 2016-17: ₹46.72 lakh and 2017-18: ₹5.82 lakh (excess over rupees one crore was met from interest earned)

<sup>178</sup> purchase of air conditioners, furniture and payment of salaries, etc.

<sup>179</sup> 2015-16: ₹11.35 lakh; 2016-17: ₹14.15 lakh

| Deliverables   | Audit observations  |
|--|---|
| <b>Gandhi Medical College</b>  |   |
| <b>Civil works: To be completed by 2014-15</b>   | <b>Status: Completed</b> with a delay of 20 months due to: <ul style="list-style-type: none"> <li>➤ Delay in entrustment of work: 4 months</li> <li>➤ Completed in June 2016</li> <li>➤ Total cost incurred: ₹25 lakh</li> </ul>  |
| <b>Procurement of Equipment: To be completed by 2016-17<sup>180</sup>. The procurement process of equipment was to commence simultaneously along with the civil works.</b> | <b>Status: Not completed</b> by the Medical College due to: <ul style="list-style-type: none"> <li>➤ Tendering process initiated: December 2016</li> <li>➤ Purchases commenced: June 2017 after a delay of 22 months</li> <li>➤ Amount incurred: ₹80.24 lakh               <ul style="list-style-type: none"> <li>• Unspent balance with GMC: ₹30.04 lakh (including bank interest)</li> <li>• Equipment <i>Elisa Reader and Washer</i> was not yet procured as of August 2018</li> <li>• Besides, one of the equipment which was purchased for the MRU (5-part Haematology Analyser) was transferred to Central Diagnostic Laboratory under Pathology Department since the project (MRU) was not initiated</li> <li>• The equipment procured was kept idle/uninstalled without utilisation even as of August 2018<sup>181</sup></li> </ul> </li> </ul> |
| <b>Appointment of contractual staff: The process to engage contractual staff was to commence in the 2<sup>nd</sup> year of sanction i.e., 2015-16</b>                      | <b>Status: No Contractual staff in place in the MRU</b> <ul style="list-style-type: none"> <li>➤ Process of recruitment of contractual staff: commenced with delay of over three years.</li> <li>➤ Applications for contractual staff scrutinised: 16 applications not finalized for want of funds.</li> <li>➤ Even the equipments procured in connection with the research activities could not be put to use for want of staff.</li> </ul>  |
| <b>Formation of Local Research Advisory Committee (LRAC):</b>  | <b>Status: LRAC formed in September 2015.</b> <ul style="list-style-type: none"> <li>➤ Research projects identified: Seven</li> <li>➤ Research projects approved: Three</li> <li>➤ Status of the projects completed: only one which did not require any staff complement and which could be done on lab pro charts in Physiology Department</li> </ul>  |

GMC attributed (August 2018) the delay in procurement of equipment to (i) non-release of 2<sup>nd</sup> instalment by GoI (ii) prolonged tender process (iii) procurement of high-end equipment from overseas and (iv) delayed constitution of the LRAC. Principal, GMC stated that, the matter of release of 2<sup>nd</sup> instalment was taken up with GoI (July 2017 and September 2017).

The Colleges had, however, not intimated the GoI of the completion of the deliverables pertaining to the Civil works, finalisation of the staff for MRU and the formation of LRAC which would have facilitated the release of further funds. Consequently, no funds were released by GoI as of August 2018.

<sup>180</sup> 2014-15: ₹one crore; 2015-16: ₹2 crore and 2016-17: ₹2 crore

<sup>181</sup> As per the information furnished by GMC dated 13 August 2018

*Thus, failure to meet the project milestones and pre-requisites as per the time schedule intimated by GoI coupled with non-release of subsequent funds by GoI resulted in the MRUs remaining non-functional. The objective of bridging the gap in the infrastructure in the Medical Colleges and promoting research in non-communicable diseases having impact on public health remained unachieved.*

The matter was reported to Government in (August/October 2018); reminded in September/November 2018. Their reply is awaited.

## **Youth Advancement, Tourism and Culture Department National Institute of Tourism and Hospitality Management (NITHM)**

### **3.12 Four Star Business Class Hotel - a stalled PPP Project**

**Improper project management by National Institute of Tourism and Hospitality Management (NITHM) derailed the PPP project leading to recurring annual loss of revenue of about ₹2.50 crore to NITHM besides depriving employment/training opportunities to its students**

National Institute of Tourism and Hospitality Management (NITHM)<sup>182</sup> decided (2005)<sup>183</sup> construction of a Four Star Business Class Hotel under Public Private Partnership (PPP)<sup>184</sup> mode at Gachibowli, Hyderabad. NITHM issued Request for Proposal (RFP) in 2009 and considered the application of a lone bidder and forwarded the proposal to Government (January 2010). Government approved (July 2010) the proposal. The hotel was to be constructed on a Build, Operate and Transfer (BOT) basis. On completion, the hotel operations were expected to engage over 500 employees besides regular summer jobs, internships and employment opportunities to students of NITHM. Various ‘Leader-in-Training’ programs and practical training for students of NITHM were also envisaged.

After following due process, the project<sup>185</sup> was awarded (September 2010) to a Lead Developer<sup>186</sup> and a Special Purpose Vehicle (SPV)<sup>187</sup>. NITHM entered (November 2010) into two agreements<sup>188</sup> with the Lead developer and the SPV for joint execution of the hotel project. Three acres of land was to be alienated by NITHM for the project. The project was to be completed by May 2013 i.e., after 30 months from the date of delivery of physical possession (Zero date<sup>189</sup>) of the project site.

Following were the Audit criteria, viz., (a) RFP – December 2008 (b) Orders of Government - July 2010 and August 2010 (c) Letter of Award - September 2010 (d) Lease Agreement - November 2010 and (e) Development and Management Agreement - November 2010.

<sup>182</sup> A registered society established by Andhra Pradesh Tourism Development Corporation Limited

<sup>183</sup> 8<sup>th</sup> Governing Council meeting of March 2005

<sup>184</sup> Contained in PPP framework of erstwhile Planning Commission (September 2005)

<sup>185</sup> with a project cost of ₹75.50 crore

<sup>186</sup> in technical collaboration with a foreign firm

<sup>187</sup> SPV was incorporated (October 2010) which was to be the developer as well as a Lessee for the project

<sup>188</sup> (i) Development and Management Agreement (4 November 2010) and (ii) Lease Agreement (24 November 2010)

<sup>189</sup> 04 November 2010

The Hotel project envisaged *inter alia*, the following:

- Over the lease period of 33 years, NITHM would receive as lease rent ₹1.45 crore<sup>190</sup> per annum starting from Zero date. An Additional Development Premium (ADP) of not less than ₹0.62 crore per annum would be payable from fourth year of the lease. Thus, revenue flow of ₹157.44 crore<sup>191</sup> was projected over the lease period.
- While the developer was to obtain the necessary approvals, NITHM was obligated to facilitate the process through the Tourism Department. In case, the approvals were unreasonably delayed for no fault of the developer, the lease period was to be adequately restated to compensate the loss of time. Further, no lease amount was payable for such period.
- NITHM would appoint a Project Coordinator to review and monitor by visiting, inspecting and reporting on various aspects of the project.

Audit scrutiny of records (March/April 2016) and further information obtained and examined (February 2017 and June 2018) of NITHM revealed inadequacies in project management as detailed below:

- (i) NITHM did not appoint a Project Coordinator to monitor the project as provided in the agreement.
- (ii) The Agreement envisaged a role for NITHM as a facilitator which it did not fulfill leading to delays in statutory approvals. Further, it did not restate the lease period to compensate the loss of time due to delays and instead collected lease rentals due for that period also.
- (iii) Construction was completed up to 13 floors (Reinforced Cement Concrete frame), of which brick work for 12 floors was completed (April 2015). The developer requested (February 2016) for 24 months period to complete the project bringing out the constraints faced. These included constraints on smooth handover of the land due to need for re-alignment of land and consequent delays in approvals from authorities. NITHM, however, refused<sup>192</sup> (April 2016) the request for extension, on the ground that the Developer failed to comply with the agreed terms and conditions.
- (iv) The developer obtained credit facilities by mortgaging lease hold rights with Punjab National Bank consortium as per the provisions of the agreement. The bank informed (July 2016) NITHM that the loan accounts of the developer had turned into non-performing asset from June 2016 and that recovery process would begin within 60 days. Pursuant to this communication from bank, NITHM issued termination notice (July 2016). NITHM demanded in the notice, ₹4.03 crore towards outstanding dues and immediate handing over of the project site. Criminal proceedings were envisaged against the Developer, if the alienated land had been mortgaged by the Developer. The construction of hotel which was to be completed by May 2013 was stalled for 43 months (April 2015 to November 2018).

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<sup>190</sup> Lease rent calculated at five *per cent* of basic value of land with incremental increase of five *per cent* per annum during the lease period of 33 years

<sup>191</sup> Total Lease amounts receivable for 33 years with progressive increase at five *per cent* per annum ₹116.25 crore + Total Additional Development Premium receivable from 4<sup>th</sup> year of lease to 33<sup>rd</sup> year of lease with progressive increase at five *per cent* per annum ₹41.19 crore

<sup>192</sup> Resolution of the Governing Council of NITHM dated 12 April 2016



- (v) NITHM, being the implementing agency of the project did not make any efforts to amicably settle the dispute as provided in the agreement, before issuing termination notice. The Project was awaiting settlement of the dispute by the Arbitral Tribunal since March 2017.
- (vi) Of the projected revenues of ₹16.03 crore<sup>193</sup> during 2010-18, the project could generate revenue of ₹11.90 crore<sup>194</sup> only. Owing to the stalled project since April 2015 NITHM has been suffering a recurring annual loss of revenue of about ₹2.50<sup>195</sup> crore. Further, the benefits that were to be accrued to the students of NITHM in terms of training and employment opportunities could also not be harnessed.

Government confirmed (November 2018) the above audit observations. Government however stated that, obtaining requisite approvals from GHMC and other authorities was the responsibility of the Developer. This reply of Government was not in consonance with the terms of the agreement and spirit of PPP projects which was to build synergies between the partners to ensure, among other issues, flow of approvals.

Thus, improper management by NITHM of their PPP project ended up in a legal dispute. This resulted in recurring loss of revenue of about ₹2.50 crore per annum to the Institute.

***Thus, improper project management by National Institute of Tourism and Hospitality Management (NITHM) derailed the PPP project leading to recurring annual loss of revenue of about ₹2.50 crore to NITHM besides depriving employment/ training opportunities to its students.***

## Backward Classes Welfare Department

### 3.13 Inadequate planning in construction of Girls Hostel building

**Due to non-provision of compound wall, Girls Hostel building constructed at a cost of ₹86.10 lakh, could not be put to use**

Department of Backward Classes Welfare (Department) accorded<sup>196</sup> administrative sanction (September 2013) for construction<sup>197</sup> of 18 residential hostel buildings<sup>198</sup> for school going girl/boy students. The estimated cost of construction of these hostels was ₹14.40 crore (at the rate of ₹80 lakh each). Of these, six hostels<sup>199</sup> were sanctioned in the districts that formed part of the newly formed State of Telangana. Construction of these buildings stood entrusted<sup>200</sup> to Telangana State Education & Welfare Infrastructure Development Corporation (TSEWIDC).

Of the six buildings, construction of five<sup>201</sup> were completed and taken over by the respective District Backward Classes Development Officer (DBCDO).

<sup>193</sup> Lease Rentals and ADP upto April 2018 ₹12.79 crore + ₹3.24 crore respectively

<sup>194</sup> Lease Rentals ₹10.01 crore + encashed bank guarantee ₹1.89 crore

<sup>195</sup> Lease rental ₹1.85 crore + ADP ₹0.68 crore since 2015-16

<sup>196</sup> in the unified State of Andhra Pradesh

<sup>197</sup> sanctioned by the State Government under regular Plan Budget under the Head “Buildings”

<sup>198</sup> Boys Hostels: 12 and Girls Hostels: 6

<sup>199</sup> VN Nagar, Hyderabad; Mulugu, Warangal; Gallipalli, Karimnagar; Sadasivapet, Medak and Armoor & Nizamabad, Nizamabad (Boys: 3 and Girls: 3)

<sup>200</sup> The construction of Hostels was entrusted (September 2013) to erstwhile Andhra Pradesh Education & Welfare Infrastructure Development Corporation (APEWIDC)

<sup>201</sup> VN Nagar, Hyderabad; Mulugu, Warangal; Gallipalli, Karimnagar and Armoor & Nizamabad, Nizamabad

The Girls Hostel building at Sadasivpet, Medak District<sup>202</sup> constructed<sup>203</sup> at a cost of ₹86.10 lakh<sup>204</sup> was, however, not taken over by the Department as of August 2018.

Audit scrutiny (February/March 2018) of records of DBCDO, Sangareddy and further information collected revealed that, the land for the proposed hostel at Sadasivpet was identified (August 2013) by Revenue Department (Tahasildar, Sadasivpet Mandal). The site was handed over to Assistant Backward Classes Welfare Officer (ABCWO), Sangareddy in January 2014. ABCWO after clearing the site from encroachments handed over the site to TSEWIDC in December 2014 after a delay of 10 months. The construction was entrusted (March 2014) at a cost of ₹74.03 lakh, to be completed within a period of nine months from the date of the agreement/date of handing over of site.

Audit found that, the newly constructed Girls Hostel building was not taken over by the DBCDO as of August 2018 because of the following reasons:

- (i) Although the construction was completed<sup>205</sup> in September 2015, certain amenities (included in original estimates) like toilet blocks and borewell were not done by the contractor. Additional funds of ₹6.10 lakh for these amenities was provided in February 2017. There was a delay of nearly one and half years in taking up the work relating to these amenities.
- (ii) The hostel building was located at the outskirts of Sadasivpet town due to which threat of safety to the girls was perceived. Construction of compound wall, which is essential for a Girls Hostel, was, however, not envisaged in the original estimates. The estimate for the construction of the compound wall was submitted<sup>206</sup> to DBCDO (March 2018) at a cost of ₹14.30 lakh. The administrative sanction for the estimate was awaited as of August 2018.

The perceived safety threat was also stated by the Assistant Engineer, TSEWIDC during the joint physical verification (September 2018) conducted by Audit.

- (iii) Audit also found that, the delay of 35 months in initiating the work on construction of compound wall could not be attributed to lack of funds. At the time of sanctioning the funds for the project, the Department had instructed District Collectors to mobilise<sup>207</sup>, additionally, funds of other schemes<sup>208</sup>, towards the project. This avenue was however not utilised.

As a result, Girls hostel constructed at a cost of ₹86.10 lakh in June 2017 could not be put to use as of August 2018 and instead, continued to function in a rented<sup>209</sup> accommodation.

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<sup>202</sup> after reorganisation of districts, Sadasivpet is under Sangareddy district

<sup>203</sup> with an intake capacity of 100 students

<sup>204</sup> In addition to ₹80 lakh, amenities viz., toilet blocks, electrification and colouring to building were provided (February 2017) at a cost of ₹6.10 lakh on reimbursement basis from out of Crucial Balancing Fund (CBF) provided by the District Collector

<sup>205</sup> Extension of Time (EoT) given by the Department to the contractor up to 07 September 2015. The sanctioned fund of ₹80 lakh was utilised

<sup>206</sup> by the Executive Engineer, TSEWIDC

<sup>207</sup> at least 10 per cent of the sanctioned amount

<sup>208</sup> MPLADS/CDP/BGF/ZP Funds/CSR or any other discretionary grants from the District

<sup>209</sup> on a monthly rent of ₹7,128

Department during the physical verification (September 2018), expressed apprehensions of encroachments on the new building, if needful steps were not taken.

Government in its response (January 2019) confirmed the audit observations.

***Thus, due to non-provision of compound wall, Girls Hostel building constructed at a cost of ₹86.10 lakh, could not be put to use.***

## Panchayat Raj and Rural Development Department

### 3.14 Short payment to the bereaved families under NFBS

#### Compensation under National Family Benefit Scheme was not paid as per the rate fixed by GoI resulting in short payment of ₹14.26 crore to 13,373 bereaved families

Government of India (GoI) introduced (August 1995) the National Social Assistance Programme<sup>210</sup>, to provide social assistance<sup>211</sup> to poor households. Under this Programme, GoI provides 100 *per cent* Central assistance to States to ensure that social protection to the beneficiaries is made uniformly available all over the country. National Family Benefit Scheme (NFBS) is one of the components of this Programme. NFBS provides lump sum Central assistance of ₹5,000 and ₹10,000 in case of natural death and accidental death respectively to the bereaved families in the event of death of the primary bread winner in the age group of more than 18 years and less than 65 years. The assistance was enhanced to ₹10,000 and ₹20,000 in 1998 and 2012<sup>212</sup> respectively irrespective of natural or accidental death. GoI fixed (November 2012) the numerical ceiling of the number of beneficiaries under the Scheme to the State at 7,794<sup>213</sup> beneficiaries per year. NFBS guidelines stipulated that if the number of beneficiaries exceeded this limit, States may provide assistance at least equivalent to the Central assistance.

Society for Elimination of Rural Poverty (SERP) was the nodal agency for implementation of this scheme in the State. Audit examined (February 2018) the records of SERP pertaining to implementation of NFBS for the period 2014-18. It was observed that State Government fixed (July 2003) the rate of assistance at ₹5,000 as against ₹10,000 fixed by GoI. Following revision of rate by GoI (2012), State Government revised (November 2013) the rate of assistance to ₹10,000 as against ₹20,000 fixed by GoI. It was clarified that beneficiaries assisted under Aam Aadmi Bima Yojana and Apathbandhu schemes would not be considered for assistance under NFBS. Subsequently, the rate of assistance was enhanced (April 2017) to ₹20,000 as per norms fixed by GoI. Assistance provided under NFBS during 2015-18 is tabulated in Table 3.9.

<sup>210</sup> it comprises social welfare benefit schemes, viz., National Old Age Pension Scheme, National Family Benefit Scheme, National Maternity Benefit Scheme

<sup>211</sup> in case of old age, death of the bread winner, etc.

<sup>212</sup> eligible age was revised from 18 - 65 years to 18- 59 years

<sup>213</sup> GoI fixed (November 2012) the numerical ceiling of beneficiaries as 18,700 for combined State of Andhra Pradesh (Population of State X Poverty Ratio X Proportion of age group in total population X Age Specific mortality in the age group); after bifurcation of State, 7,794 beneficiaries were allocated to Telangana State (41.68 *per cent*)

Table-3.9

(₹ in crore)

| Year         | No. of beneficiaries fixed by GoI per annum | No. of beneficiaries to whom assistance was provided |               |            |               | Percentage of beneficiaries to whom assistance provided | Assistance to be provided at the rate of ₹ 20,000 | Actual assistance provided | Short payment                           |
|--------------|---|--|---------------|------------|---------------|---|---|----------------------------|---|
|              |   | ₹ 5,000 <sup>214</sup>                               | ₹ 10,000      | ₹ 20,000   | Total         |   |   |                            |   |
| 1            | 2   | 3  | 4             | 5          | 6             | 7<br>(Percentage of Col.6/Col.2)                        | 8<br>(Col.6*<br>₹ 20,000)<br>(₹ in crore)         | 9<br>(₹ in crore)          | 10<br>(Col.8-<br>Col.9)<br>(₹ in crore) |
| 2014-15      | 7,794                                       | 726  | 761           | 0          | 1,487         | 19  | 2.97  | 1.12                       | 1.85                                    |
| 2015-16      | 7,794                                       | 682  | 4,190         | 0          | 4,872         | 63  | 9.74  | 4.53                       | 5.21                                    |
| 2016-17      | 7,794                                       | 220  | 4,100         | 0          | 4,320         | 55  | 8.64  | 4.21                       | 4.43                                    |
| 2017-18      | 7,794                                       | 164  | 2,530         | 840        | 3,534         | 45  | 7.07  | 4.30                       | 2.77                                    |
| <b>Total</b> | <b>31,176</b>                               | <b>1,792</b>   | <b>11,581</b> | <b>840</b> | <b>14,213</b> | <b>46</b>   | <b>28.42</b>                                      | <b>14.16</b>               | <b>14.26</b>                            |

Source: Information furnished by SERP

Audit observed that:

- i. The response to the NFBS (with scaled down compensation) was poor. 15,799 number of applications were received during 2014-18, of which 14,213 (90 per cent) received the benefit. Rejection of applications were on account of benefits received from other schemes viz., Aam Aadmi Bima Yojana<sup>215</sup>, Apathbandhu<sup>216</sup>, etc., where the compensation amount was more than NFBS.

Government accepted (December 2018) the audit observation on poor response to the NFBS.

- ii. State Government took the decision to reduce the rate of assistance (contrary to GoI guidelines) with an expressed intent to reach out to larger number of beneficiaries. Coverage of beneficiaries during 2014-18, however, ranged between 19 per cent and 63 per cent of the numerical ceiling fixed by GoI. While conducting (January 2014) review of the Scheme, GoI expressed dissatisfaction on the lower rates adopted by the State Government. State Government, however, enhanced the rate in April 2017 after three years. 13,373<sup>217</sup> (94 per cent) out of 14,213 beneficiaries were extended (2014-18) assistance of less than the rate of ₹20,000 fixed by GoI, which resulted in short payment of ₹14.26 crore.

Government stated (December 2018) that GoI provided requisite flexibility to the States in choice and implementation of schemes viz., Old age pension, Family benefit or free food grains. Accordingly rate of assistance to be provided to NFBS beneficiaries was reduced to cover more number of beneficiaries. Audit observed that as per provisions of NFBS guidelines<sup>218</sup>, GoI while allocating the funds to the States on welfare schemes viz., Old age pension, Family benefit or free food grains stated that funds could be utilised by taking one or two or all the three schemes in accordance with the priorities and needs of the State. Further, States may increase the rate of assistance or number of beneficiaries, however additional funds needed for

<sup>214</sup> reasons for short payment of benefit against ₹10,000 fixed by State Government was not on record

<sup>215</sup> Assistance under Aam Aadmi Bima Yojana is ₹30,000 for natural death and ₹75,000 for accidental death

<sup>216</sup> Assistance under Apathbandhu is ₹50,000 for accidental death

<sup>217</sup> Assistance of ₹5,000 and ₹10,000 was given to 1,792 and 11,581 beneficiaries respectively

<sup>218</sup> Guidelines issued in 2005

enhancement would need to be supplemented by the State Government funds. Thus the flexibility provided was about the schemes and not the rate of assistance as approved for the schemes. Further, GoI expressed dissatisfaction on the lower rates adopted by the State Government in its review meeting conducted in January 2014.

- iii. 1,628 beneficiaries were extended (2014-17) the assistance of ₹5,000 as against ₹10,000 fixed (November 2013) by State Government. Further, 2,694 (76 per cent) out of 3,534 beneficiaries were extended (2017-18) the assistance of ₹5,000 and ₹10,000 as against ₹20,000 fixed (April 2017) by State Government.

Government did not furnish specific reply to the audit observation.

- iv. As of February 2018, ₹17.15 crore was lying in the bank account of NFBS. In the Utilisation Certificates (UCs) submitted to GoI, however, State Government certified (February 2018) that all the funds released up to February 2018 were utilised and unspent balance was 'Nil'.

Government stated (December 2018) that unspent balance was reported as 'Nil' due to non-completion of audit of accounts. It was, however, observed from Bank statements that ₹17.15 crore was lying in the bank account of NFBS as of February 2018. Thus incorrect UCs were furnished to GoI.

- v. Chief Executive Officer, SERP informed (February 2018) that there was no proposal to pay balance assistance to the beneficiaries. Government did not furnish reply to this observation.


Thus, compensation under NFBS was not paid as per the rate fixed by GoI resulting in short payment of ₹14.26 crore to 13,373 bereaved families.

Hyderabad  
The

  
(SUDHA RAJAN)  
Accountant General (Audit)  
Telangana

Countersigned

New Delhi  
The

  
(RAJIV MEHRISHI)  
Comptroller and Auditor General of India



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## **Appendices**

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**Appendix-1.1**  
**(Reference to paragraph 1.6.1, page 4)**

**Department-wise break-up of outstanding Inspection Reports and Paragraphs**

| Department                                     | Number of IRs/Paragraphs pending as of 30 September 2018 |              |
|--|--|--------------|
|  | IRs  | Paragraphs   |
| Backward Classes Welfare                       | 19   | 252          |
| Consumer Affairs, Food and Civil Supplies      | 19   | 148          |
| Finance  | 1  | 6            |
| General Administration                         | 6  | 58           |
| Health, Medical and Family Welfare             | 21   | 518          |
| Higher Education                               | 70   | 1,152        |
| Home   | 41   | 372          |
| Labour, Employment, Training and Factories     | 46   | 309          |
| Law  | 21   | 131          |
| Minorities Welfare                             | 9  | 116          |
| Municipal Administration and Urban Development | 58   | 1,131        |
| Panchayat Raj and Rural Development            | 113  | 1,664        |
| Planning                                       | 12   | 99           |
| Revenue  | 11   | 250          |
| Scheduled Castes Development                   | 13   | 258          |
| School Education                               | 28   | 619          |
| Tribal Welfare                                 | 14   | 208          |
| Women, Children, Disabled and Senior Citizens  | 65   | 622          |
| Youth Advancement, Tourism and Culture         | 28   | 274          |
| <b>Total</b>                                   | <b>595</b>   | <b>8,187</b> |

**Appendix-1.2**

(Reference to paragraph 1.6.3, page 6)

**Explanatory Notes to be received as of 30 September 2018  
(issues exclusively pertaining to the State of Telangana)**

| Department   | 2014-15  | 2015-16   | 2016-17  | Total     |
|--|----------|-----------|----------|-----------|
| Health, Medical and Family Welfare                     | -        | 2         | 1        | 3         |
| Higher Education                                       | -        | 1         | 2        | 3         |
| Home   | -        | 1         | 1        | 2         |
| Information Technology, Electronics and Communications | 1        | -         | -        | 1         |
| Municipal Administration and Urban Development         | -        | -         | 2        | 2         |
| Revenue  | -        | 1         | -        | 1         |
| School Education                                       | -        | 1         | 1        | 2         |
| Women, Children, Disabled and Senior Citizens          | -        | 3         | -        | 3         |
| Youth Advancement, Tourism and Culture                 | -        | 2         | -        | 2         |
| <b>Total</b>   | <b>1</b> | <b>11</b> | <b>7</b> | <b>19</b> |

**Explanatory Notes to be received as of 30 September 2018  
(issues common to both the States of Andhra Pradesh and Telangana)**

| Department                                  | 2009-10<br>(Civil) | 2010-11<br>(Civil) | 2011-12<br>(G&SSA) | 2012-13<br>(G&SSA) | 2013-14<br>(G&SSA) | Total     |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|-----------|
| Finance                                     | 1*                 | -                  | 1                  | 1                  | -                  | 3         |
| Health, Medical and Family Welfare          | -                  | -                  | -                  | -                  | 2                  | 2         |
| Home  | -                  | -                  | 1                  | 1                  | 1                  | 3         |
| Minorities Welfare                          | -                  | -                  | 1                  | -                  | 1                  | 2         |
| Panchayat Raj and Rural Development         | -                  | -                  | 1                  | 1                  | -                  | 2         |
| Tribal Welfare                              | -                  | 1                  | 1                  | -                  | 1                  | 3         |
| Women, Children, Disabled & Senior Citizens | -                  | -                  | -                  | -                  | 1                  | 1         |
| Youth Advancement, Tourism and Culture      | -                  | -                  | -                  | -                  | 1                  | 1         |
| <b>Total</b>                                | <b>1</b>           | <b>1</b>           | <b>5</b>           | <b>3</b>           | <b>7</b>           | <b>17</b> |

\* in respect of Audit Report on Revenue Receipts

**Appendix-1.3****(Reference to paragraph 1.6.4, page 6)****Action Taken Notes on PAC recommendations to be received from Government of  
Telangana as of 30 September 2018  
(issues exclusively pertaining to the State of Telangana)**

| Department                         | Ist Legislative Assembly (2014-18) | Total    |
|------------------------------------|------------------------------------|----------|
| Health, Medical and Family Welfare | 1                                  | 1        |
| <b>Total</b>                       | <b>1</b>                           | <b>1</b> |

**Action Taken Notes on PAC recommendations to be received from Government of  
Telangana as of 30 September 2018  
(issues common to both the States of Andhra Pradesh and Telangana)**

| Department                                    | XIth<br>Legislative<br>Assembly<br>(1999-2004) | XIIth<br>Legislative<br>Assembly<br>(2004-09) | XIIIth<br>Legislative<br>Assembly<br>(2009-14) | Total    |
|---|--|---|--|----------|
| Backward Classes Welfare                      | -  | -   | 1  | 1        |
| Health, Medical and Family Welfare            | -  | -   | 2  | 2        |
| Labour, Employment, Training and<br>Factories | -  | -   | 2  | 2        |
| Panchayat Raj and Rural Development           | 3  | -   | -  | 3        |
| <b>Total</b>                                  | <b>3</b>                                       | <b>-</b>                                      | <b>5</b>                                       | <b>8</b> |

**Appendix-2.1**

**(Reference to paragraph no. 2.1.7.6, page no. 15)**

**Statement of Monthly Water Levels at Himayathsagar and Osmansagar reservoirs during the period August 2016 to March 2018**

| Month    | Himayathsagar Lake  |               |               | Osmansagar Lake     |               |               |
|----------|---------------------|---------------|---------------|---------------------|---------------|---------------|
|          | Lowest Sluice Level | Minimum Level | Maximum Level | Lowest Sluice Level | Minimum Level | Maximum Level |
| Aug-2016 | 1733.00             | 1726.43       | 1726.9        | 1757.00             | 1757.50       | 1758.00       |
| Sep-2016 | 1733.00             | 1727.10       | 1745.70       | 1757.00             | 1757.90       | 1780.50       |
| Oct-2016 | 1733.00             | 1746.15       | 1748.26       | 1757.00             | 1788.50       | 1782.50       |
| Nov-2016 | 1733.00             | 1747.86       | 1748.26       | 1757.00             | 1782.26       | 1782.50       |
| Dec-2016 | 1733.00             | 1747.28       | 1747.84       | 1757.00             | 1781.92       | 1782.26       |
| Jan-2017 | 1733.00             | 1746.96       | 1747.26       | 1757.00             | 1781.38       | 1781.92       |
| Feb-2017 | 1733.00             | 1746.48       | 1746.93       | 1757.00             | 1780.84       | 1781.36       |
| Mar-2017 | 1733.00             | 1745.66       | 1746.46       | 1757.00             | 1780.22       | 1780.82       |
| Apr-2017 | 1733.00             | 1745.04       | 1745.63       | 1757.00             | 1779.25       | 1780.20       |
| May-2017 | 1733.00             | 1744.46       | 1745.02       | 1757.00             | 1777.85       | 1779.21       |
| Jun-2017 | 1733.00             | 1744.25       | 1745.40       | 1757.00             | 1777.20       | 1777.80       |
| Jul-2017 | 1733.00             | 1745.22       | 1745.50       | 1757.00             | 1776.76       | 1777.18       |
| Aug-2017 | 1733.00             | 1745.12       | 1745.28       | 1757.00             | 1776.54       | 1776.74       |
| Sep-2017 | 1733.00             | 1745.18       | 1745.76       | 1757.00             | 1776.30       | 1776.70       |
| Oct-2017 | 1733.00             | 1745.76       | 1758.34       | 1757.00             | 1776.70       | 1782.50       |
| Nov-2017 | 1733.00             | 1758.00       | 1758.32       | 1757.00             | 1782.20       | 1782.50       |
| Dec-2017 | 1733.00             | 1757.40       | 1757.90       | 1757.00             | 1781.70       | 1782.20       |
| Jan-2018 | 1733.00             | 1757.00       | 1757.40       | 1757.00             | 1781.20       | 1781.70       |
| Feb-2018 | 1733.00             | 1756.40       | 1757.00       | 1757.00             | 1780.50       | 1781.20       |
| Mar-2018 | 1733.00             | 1755.90       | 1756.40       | 1757.00             | 1779.90       | 1780.50       |

## Appendix-2.2

(Reference to paragraph no. 2.1.7.6, page no. 15)

## Statement showing additional pumping charges incurred

| Month & Year | Qty of water lifted from GDWSP (MGD) | Actual Qty of water was to be lifted from GDWSP (MGD) | Avoidable qty of water pumped (MGD) [Col. (2)-Col. (3)] | No. of days in a month | Total avoidable qty of water pumped in a month (MG) [Col. (4) x Col. (5)] | Power charges per MG of water lifted in GDWSP (in ₹) | Avoidable payment of pumping charges for the water pumped from GDWSP [Col. (6) x Co. (7)] (in ₹) |
|--------------|--------------------------------------|---|---|------------------------|---|--|--|
| 1            | 2                                    | 3   | 4   | 5                      | 6   | 7  | 8  |
| Aug-2016     | 79                                   | 53  | 26  | 31                     | 806   | 63,917.12  | 5,15,17,199.41   |
| Sep-2016     | 86                                   | 42  | 44  | 30                     | 1320  | 63,339.57  | 8,36,08,230.21   |
| Oct-2016     | 58                                   | 14  | 44  | 31                     | 1364  | 67,423.75  | 9,19,65,998.36   |
| Nov-2016     | 62                                   | 18  | 44  | 30                     | 1320  | 61,744.51  | 8,15,02,756.56   |
| Dec-2016     | 93                                   | 49  | 44  | 31                     | 1364  | 49,450.09  | 6,74,49,925.12   |
| Jan-2017     | 93                                   | 49  | 44  | 31                     | 1364  | 69,100.35  | 9,42,52,871.92   |
| Feb-2017     | 115                                  | 71  | 44  | 28                     | 1232  | 66,248.74  | 8,16,18,449.43   |
| Mar-2017     | 117                                  | 73  | 44  | 31                     | 1364  | 55,217.92  | 7,53,17,246.78   |
| Apr-2017     | 106                                  | 77  | 29  | 30                     | 870   | 56,677.39  | 4,93,09,329.52   |
| May-2017     | 120                                  | 91  | 29  | 31                     | 899   | 56,761.42  | 5,10,28,515.83   |
| Jun-2017     | 118                                  | 89  | 29  | 30                     | 870   | 60,239.33  | 5,24,08,213.39   |
| Jul-2017     | 120                                  | 106   | 29  | 31                     | 899   | 58,072.04  | 5,22,06,765.10   |
| Aug-2017     | 120                                  | 76  | 44  | 31                     | 1364  | 59,265.62  | 8,08,38,299.73   |
| Sep-2017     | 114                                  | 85  | 29  | 30                     | 870   | 66,345.00  | 5,77,20,151.90   |
| Oct-2017     | 125                                  | 84  | 41  | 31                     | 1271  | 57,052.76  | 7,25,14,053.73   |
| Nov-2017     | 137                                  | 96  | 41  | 30                     | 1230  | 60,235.61  | 7,40,89,800.35   |
| Dec-2017     | 138                                  | 97  | 41  | 31                     | 1271  | 55,285.11  | 7,02,67,374.88   |
| Jan-2018     | 127                                  | 86  | 41  | 31                     | 1271  | 60,955.22  | 7,74,74,085.23   |
| Feb-2018     | 138                                  | 97  | 41  | 28                     | 1148  | 65,753.15  | 7,54,84,619.56   |
| Mar-2018     | 140                                  | 99  | 41  | 31                     | 1271  | 54,209.12  | 6,88,99,792.92   |
|              | <b>Total</b>                         |   |   |                        |   |  | <b>1,40,94,73,679.96</b>   |

**Appendix-2.3**

**(Reference to paragraph 2.1.8.2 page 18)**

**Details of the water sources where measuring devices/SCADA was installed**

| Sl. No. | Details of the water source | Date of physical verification | Details of measuring devices installed (col. 6) | Whether SCADA system installed (col. 7) | Remarks   |
|---------|-----------------------------|-------------------------------|---|---|---|
| 1       | Himayatsagar                | 25 July 2018                  | Measuring devices not installed                 | Not installed                           | Upto 1732 ft level water supply through gravity. Below 1726 ft by pumping |
| 2       | KDWSP Phase I               | 12 June 2018                  | Measuring devices not installed                 | Not installed                           |   |
| 3       | KDWSP Phase II              | 12 June 2018                  | Measuring devices not installed                 | Not installed                           |   |
| 4       | KDWSP Phase III             | 12 June 2018                  | Measuring devices not installed                 | Installed only for monitoring purposes  |   |
| 5       | Osmansagar                  | 25 July 2018                  | Measuring devices not installed                 | Not installed                           | Upto 1757 ft level water supply through gravity.                          |
| 6       | Singur Phase IV             | 3 July 2018                   | Measuring devices installed                     | Not installed                           |   |
| 7       | Manjira Phase I             | 6 July 2018                   | Measuring devices not installed                 | Not installed                           |   |
| 8       | Manjira Phase II            | 6 July 2018                   | Measuring devices not installed                 | Not installed                           |   |
| 9       | Singur Phase-III            | 4 July 2018                   | Measuring devices installed                     | Not installed                           |   |
| 10      | GDWSP Murmur to Bommakkal   | 20 June 2018                  | Measuring devices installed                     | Installed                               |   |
| 11      | GDWSP Mallaram to Kondapak  | 20 June 2018                  | Measuring devices installed                     | Installed                               |   |
| 12      | GDWSP Kondapak to Ghanpur   | 20 June 2018                  | Measuring devices not installed                 | Installed                               |   |

**Appendix-2.4**  
**(Reference to paragraph 2.1.8.2 page 18)**

**Details of quantity of water lifted, released to O&M divisions**

| Source of water   | Name of the O&M Division                   | 2013-14         |                 | 2014-15         |                 | 2015-16         |                 | 2016-17         |                 | 2017-18         |                 |
|---|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|   |  | A               | R               | A               | R               | A               | R               | A               | R               | A               | R               |
| Osman sagar   | III,IV,V & VI                              | 26,270          | 26,270          | 33,685          | 33,685          | 3,488           | 3,488           | 0               | 0               | 12,441          | 12,441          |
| Himayath sagar  | I & XVI                                    | 15,914          | 15,914          | 28,831          | 28,831          | 19,812          | 19,812          | 1,253           | 1,253           | 0               | 0               |
| Singur Phase III  | VIII,IX,XV & XVIII                         | 60,077          | 60,077          | 59,976          | 59,976          | 24,755          | 24,755          | 0               | 0               | 30,258          | 30,258          |
| Singur Phase IV   |  | 68,003          | 68,003          | 68,431          | 68,431          | 28,189          | 28,189          | 0               | 0               | 2,562           | 2,562           |
| Manjeera Phase I  |  | 27,860          | 27,860          | 27,804          | 27,804          | 29,404          | 29,404          | 16,338          | 16,339          | 23,313          | 23,313          |
| Manjeera Phase II   |  | 44,134          | 44,134          | 43,891          | 43,891          | 1,49,153        | 1,49,153        | 0               | 0               | 24,269          | 24,269          |
| KDWSP Phase-I   | I, II, IV & V                              | 1,51,318        | 1,51,318        | 1,50,279        | 1,50,279        | 1,48,896        | 1,48,896        | 1,47,642        | 1,47,642        | 1,49,023        | 1,49,023        |
| KDWSP Phase-II  | I, II, VII, IX,X,XI,XI V,XIX, & XX         | 1,56,226        | 1,56,226        | 1,58,075        | 1,58,075        | 1,44,452        | 1,44,452        | 1,26,773        | 1,26,773        | 1,43,702        | 1,43,702        |
| KDWSP Phase-III   | III, IV, VI, X, XI, XIII, XIV, XV, XVI, XX | 0               | 0               | 7,910           | 7,910           | 1,07,512        | 1,07,512        | 1,47,636        | 1,47,636        | 1,33,602        | 1,33,602        |
| Godavari  | VI,VII,IX, XII,XIII,XI V & XV              | 0               | 0               | 0               | 0               | 45,109          | 45,109          | 1,41,585        | 1,41,585        | 2,07,684        | 2,07,684        |
| <b>Total (in ML)</b>  |  | <b>5,49,802</b> | <b>5,49,802</b> | <b>5,78,882</b> | <b>5,78,882</b> | <b>7,00,770</b> | <b>7,00,770</b> | <b>5,81,227</b> | <b>5,81,228</b> | <b>7,26,854</b> | <b>7,26,854</b> |
| <b>Total quantity of water lifted from all sources (ML)</b> |  |                 | <b>5,47,897</b> |                 | <b>5,72,376</b> |                 | <b>5,58,277</b> |                 | <b>5,84,179</b> |                 | <b>7,19,712</b> |

**A : Allotted; R: Released**

Source: Information/Data furnished by the Board

**Appendix-2.5**

**(Reference to paragraph 2.1.9.2 page 25)**

**Details of calculation of excess payment made due to reduction in scope of work: GDWSP**

|  | Between chainage<br>166.00m<br>and<br>280.26m | Between chainage<br>280.26m<br>and<br>1456.00m | Between chainage<br>1456.00m<br>and<br>1600.00m | Total (A+B+C)      |
|--|---|--|---|--------------------|
| (a) Distance of channel (m)  | 114.26  | 1175.74  | 144   |                    |
| (b) Average width of channel (m)   | 58.90   | 50.80  | 86.89   |                    |
| (c) Average difference in height (m) i.e., difference between proposed bed level of +131m and actual bed level executed +138 m | 6.63  | 5.63   | 2.50  |                    |
| Reduction in earth work execution (cum) = (a)x(b)x(c)  | 44619.32 (A)                                  | 336266.34 (B)                                  | 31280.40(C)                                     | <b>412166.06</b>   |
| Undue benefit  | 412166.06 cum @ ₹43.24/cum = ₹1,78,22,060     |  |   | <b>₹1.78 crore</b> |



## Appendix-3.1

(Reference to paragraph no. 3.1.1.1, page no. 34)

## Statement showing the Sample selected 50 lakes and the lakes physically verified by Audit along with Irrigation Department

| Sl. No. | Name of the lake       | Lake ID | District            | Mandal           | Village          | Joint physical verification conducted |
|---------|------------------------|---------|---------------------|------------------|------------------|---------------------------------------|
| 1       | Ramaiah Cheruvu        | 270     | Rangareddy          | Kothur           | Gudur            | No                                    |
| 2       | Yerra Kunta            | 319     | Rangareddy          | Yacharam         | Tulekhurd        | No                                    |
| 3       | Mallanna Kunta         | 509     | Rangareddy          | Ibrahimpattanam  | Kappapahad       | No                                    |
| 4       | Raisamudram Cheruvu    | 606     | Sangareddy          | Ramachandrapuram | Ramachandrapuram | Yes                                   |
| 5       | Yellareddy Cheruvu     | 1818    | Medchal-Malkajgiri  | Shamirpet        | Lalgadimalakpet  | No                                    |
| 6       | Masab Cheruvu          | 1964    | Rangareddy          | Hayathnagar      | Turkayamjal      | No                                    |
| 7       | Pedda Cheruvu          | 2404    | Rangareddy          | Maheshwaram      | Raviryala        | No                                    |
| 8       | Oora cheruvu           | 2735    | Medchal-Malkajgiri  | Kapra            | Kapra            | Yes                                   |
| 9       | Fox sagar              | 2839    | Medchal-Malkajgiri  | Qutubullahpur    | Jeedimetla       | Yes                                   |
| 10      | Osmansagar             | 2907    | Rangareddy          | Gandipet         | Gandipet         | No                                    |
| 11      | Himayatsagar           | 2919    | Rangareddy          | Gandipet         | Himayathsagar    | No                                    |
| 12      | Chinna & Pedda Cheruvu | 2927    | Rangareddy          | Rajendranagar    | Ibrahimbagh      | Yes                                   |
| 13      | Noor Mohammad Kunta    | 2952    | Rangareddy          | Rajendranagar    | Katedhan         | No                                    |
| 14      | Nagula Kunta           | 3112    | Yadadri-Bhuvanagiri | Choutuppal       | Choutuppal       | Yes                                   |
| 15      | Kotha Cheruvu          | 3225    | Yadadri-Bhuvanagiri | Bibinagar        | Kondamadugu      | Yes                                   |
| 16      | Suddhavani Kunta       | 3603    | Rangareddy          | Balapur          | Mallapur         | Yes                                   |
| 17      | Saroor Nagar Lake      | 3613    | Rangareddy          | Saroor nagar     | Saroor nagar     | Yes                                   |
| 18      | Durgam Cheruvu         | 3706    | Rangareddy          | Serilingampally  | Raidurg          | Yes                                   |
| 19      | Malka Cheruvu          | 3707    | Rangareddy          | Serilingampally  | Raidurg          | Yes                                   |
| 20      | Kotha Kunta            | 2525    | Rangareddy          | Kandukur         | Nedunur          | No                                    |
| 21      | Nallagandla lake       | 3708    | Rangareddy          | Serilingampally  | Nallagandla      | Yes                                   |
| 22      | Patel Cheruvu          | 3709    | Rangareddy          | Serilingampally  | Madinaguda       | No                                    |
| 23      | Pedda Cheruvu          | 3710    | Rangareddy          | Serilingampally  | Gangaram         | No                                    |
| 24      | Thammidi Kunta         | 3717    | Rangareddy          | Serilingampally  | Khanamet         | No                                    |
| 25      | Chakalavani Cheruvu    | 3719    | Rangareddy          | Serilingampally  | Lingampally      | Yes                                   |

| Sl. No. | Name of the lake     | Lake ID     | District           | Mandal          | Village           | Joint physical verification conducted |
|---------|----------------------|-------------|--------------------|-----------------|-------------------|---------------------------------------|
| 26      | Medla Kunta          | 3728        | Rangareddy         | Serilingampally | Gopannapally      | No                                    |
| 27      | Pedda Cheruvu        | 3730        | Rangareddy         | Serilingampally | Kajaguda          | No                                    |
| 28      | Pedda Cheruvu        | 3803        | Medchal-Malkajgiri | Uppal           | Nacharam          | No                                    |
| 29      | Nalla Cheruvu        | 3804        | Medchal-Malkajgiri | Uppal           | Uppal             | Yes                                   |
| 30      | Ramanthapur cheruvu  | 3811        | Medchal-Malkajgiri | Uppal           | Ramanthapur Bagat | Yes                                   |
| 31      | Anantagani Kunta     | 3900        | Hyderabad          | Shaikpet        | Shaikpet          | No                                    |
| 32      | Shatam cheruvu       | 3906        | Hyderabad          | Shaikpet        | Shaikpet          | No                                    |
| 33      | Hussainsagar         | 4101        | Hyderabad          | Khairatabad     | Domalguda         | No                                    |
| 34      | Tirumalgiri tank     | 4201        | Hyderabad          | Tirumalgiri     | Tirumalgiri       | No                                    |
| 35      | Mir alam tank        | 4400        | Hyderabad          | Bahadurpura     | Bahadurpura       | Yes                                   |
| 36      | Mukkidi Cheruvu      | 4700        | Medchal-Malkajgiri | Malkajgiri      | Malkajgiri        | Yes                                   |
| 37      | Banda Cheruvu        | 4701        | Medchal-Malkajgiri | Malkajgiri      | Malkajgiri        | No                                    |
| 38      | Nadimi Cheruvu       | 4702        | Medchal-Malkajgiri | Malkajgiri      | Malkajgiri        | No                                    |
| 39      | Maisamma Cheruvu     | 4800        | Medchal-Malkajgiri | Balanagar       | Kukatpally        | No                                    |
| 40      | Ambeer Cheruvu       | 4802        | Medchal-Malkajgiri | Balanagar       | Baghameer         | No                                    |
| 41      | Rangadhamuni Cheruvu | 4808        | Medchal-Malkajgiri | Balanagar       | Kukatpally        | Yes                                   |
| 42      | Yellamma Cheruvu     | 4810        | Medchal-Malkajgiri | Balanagar       | Kukatpally        | Yes                                   |
| 43      | Boin Cheruvu         | 4812        | Medchal-Malkajgiri | Balanagar       | Hasmathpet        | No                                    |
| 44      | Saki Cheruvu         | 1200/35     | Sangareddy         | Patancheruvu    | Patancheruvu      | No                                    |
| 45      | Yennem Cheruvu       | 200/N/00/3  | Rangareddy         | Nandigama       | Mamidipally       | No                                    |
| 46      | Yerra Cheruvu        | 2400/E N/02 | Rangareddy         | Maheshwaram     | Subhanpur         | No                                    |
| 47      | Laksan Kunta         | 700/102     | Medak              | Tupran          | Malkapur          | No                                    |
| 48      | Nagula cheruvu       | 700/N/0045  | Medak              | Tupran          | Nagulapally       | No                                    |
| 49      | Hamsavani Kunta      | 800/EN/07   | Siddipet           | Wargal          | Manajipet         | No                                    |
| 50      | Bathukamma Kunta     | NA          | Hyderabad          | Amberpet        | Amberpet          | No                                    |

**Appendix-3.2****(Reference to paragraph no. 3.1.2.2, page no. 34)****Roles and responsibilities of Departments involved in Protection and Conservation of Lakes**

| <b>Department</b>   | <b>Responsibilities</b>  |
|---|--|
| <b>Irrigation</b>   | Many of the lakes were originally built for irrigation purpose and were thus the responsibility of the Irrigation Department. Thus, historical information on the lakes in the form of memoirs are under the custody of Irrigation Department.   |
| <b>Municipal Administration &amp; Urban Development</b>         | It is responsible for land use regulation. The two municipal bodies: viz., Greater Hyderabad Municipal Corporation (GHMC) and Hyderabad Metropolitan Development Authority (HMDA) maintain lakes and are responsible for implementation of plans for lake protection in Hyderabad Metropolitan Area. |
| <b>Revenue</b>  | While the water belongs to the Irrigation Department, the land underneath belongs to the Revenue Department, which is the agency responsible for removal of encroachments.   |
| <b>Hyderabad Metropolitan Water Supply &amp; Sewerage Board</b> | A principal source of pollution in the lakes of Hyderabad is the sewage discharged into the lakes. Sewage treatment (establishment and running of Sewage Treatment Plants (STPs)) is the responsibility of Hyderabad Metropolitan Water Supply & Sewerage Board (HMWS&SB).                           |
| <b>Telangana State Pollution Control Board</b>                  | The pollution levels in the lakes are monitored by the Telangana State Pollution Control Board.  |
| <b>Fisheries</b>  | Wherever there is a potential for fish breeding, Fisheries Department issues licenses to the fishermen for pisciculture.   |

**Appendix-3.3**

**(Reference to paragraph no. 3.1.2.3, page no. 35)**

**List of the members of Lake Protection Committee**

| Sl. No. | Member  | Post            |
|---------|---|-----------------|
| 1       | Metropolitan Commissioner, Hyderabad Metropolitan Development Authority                       | Chairman        |
| 2       | Representative of Director General of Police  | Member          |
| 3       | Commissioner, Greater Hyderabad Municipal Corporation   | Member          |
| 4       | Managing Director, Hyderabad Metro Water Supply and Sewerage Board                            | Member          |
| 5       | Commissioner of Industries  | Member          |
| 6       | Member Secretary, Andhra Pradesh Pollution Control Board (APPCB)                              | Member          |
| 7       | Commissioner of Panchayat Raj   | Member          |
| 8       | Chief Engineer, Minor Irrigation  | Member          |
| 9       | Director of Town and Country Planning   | Member          |
| 10      | Director General, Environment Protection Training & Research Institute (EPTRI) or his Nominee | Member          |
| 11      | Representative of National Geophysical Research Institute (NGRI)                              | Member          |
| 12      | Principal Chief Conservator of Forests or his Nominee   | Member          |
| 13      | Collector, Hyderabad district   | Member          |
| 14      | Collector, Rangareddy. district   | Member          |
| 15      | Collector, Medak district   | Member          |
| 16      | Collector, Nalgonda district  | Member          |
| 17      | Collector, Mahabubnagar district  | Member          |
| 18      | Member Environment, Hyderabad Metropolitan Development Authority                              | Member Convener |

Source: records of HMDA

## Appendix-3.4

(Reference to paragraph no. 3.1.2.6, page no. 41)

## Status of major components of Hussainsagar Lake Catchment Area Improvement Project (HCIP)

(`in crore)

| Sl. No.   | Items   | Status   | Funds allocated | Expenditure | Reasons <sup>1</sup>   |
|---|---|--|-----------------|-------------|--|
| <b>Sewage Treatment Plants</b>  |   |  |                 |             |  |
| 1   | Construction of 30 Million Litres per Day (MLD) STP at Picket Nala              | Completed  | 45.82           | 48.42       |  |
| 2   | Upgradation of Existing Hussainsagar 20 MLD STP                                 | Completed  | 30.96           | 22.47       |  |
| 3   | Construction of STPs of 8 MLD, 6 MLD, 5 MLD                                     | 5 MLD STP constructed. Other two STPs not taken up     | 8.55            | 8.02        | Not considered necessary as sewage was diverted to Amberpet STP      |
| <b>Diversion channels to divert untreated sewage away from the lake</b> |   |  |                 |             |  |
| 4   | Capacity Enhancement of Interception and Diversion (I&D) Works at six locations | Completed  | 7.26            | 16.03       |  |
| <b>Network for conveyance of sewage</b>                                 |   |  |                 |             |  |
| 5   | Construction of Trunk Sewers for 52 Km in catchment area                        | Only 19.5 Km were constructed                          | 55.3            | 61.38       | Length reduced as additional I&D works were taken up                 |
| 6   | Construction of 4.1 Km Ring Sewers around the lake                              | Only 2.5 Km were constructed                           |                 |             | Since length of trunk sewer was reduced, ring sewer was also reduced |
| <b>Others</b>   |   |  |                 |             |  |
| 7   | Recycled water supply facilities of 15 MLD                                      | Completed  | 8.00            | 5.94        |  |
| 8   | Dredging of four nalas  | Dredging of 3 nalas excluding Kukatpally nala was done | 40.61           | 25.16       | It was felt that the work was not required                           |
| 9   | Construction of Alternative Idol Immersion Places at 10 locations               | Not done   |                 |             | Due to lack of public response                                       |

Source: Records of HMDA

<sup>1</sup> As per the Project Closure Report

### Appendix-3.5

(Reference to paragraph no. 3.1.2.6, page no. 41)

#### Pollution Levels in Hussainsagar at various time intervals

|                             | Biological Oxygen Demand | Dissolved Oxygen   |
|-----------------------------|--------------------------|--------------------|
| CPCB norms                  | 3 mg/litre or less       | 4 mg/litre or more |
| February 2006 <sup>2</sup>  | 17 – 44                  | Nil – 4.9          |
| September 2016 <sup>3</sup> | 8 – 22                   | 4.9 – 7.4          |
| January 2018                | 20 – 69                  | 0 – 1.5            |
| February 2018               | 32 – 74                  | 0 – 3.2            |
| March 2018                  | 27 – 82                  | 0 – 4              |
| April 2018                  | 25 – 75                  | 1.7 – 3.5          |
| May 2018                    | 25 – 58                  | 0 – 3              |

### Appendix-3.6

(Reference to paragraph no. 3.1.3, page no.45)

**Table-1: A comparison of Memoirs of I&CAD and Notifications - reduction in FTL area**

| Sl. No. | Name of the Lake             | FTL area (in acres) |                     |                       |
|---------|------------------------------|---------------------|---------------------|-----------------------|
|         |                              | Memoir              | As per Notification | Reduction in FTL area |
| 1       | Mukkidi Cheruvu              | 99.089              | 70.405              | 28.684                |
| 2       | Nadimi Cheruvu (Safilguda)   | 90.935              | 74.246              | 16.689                |
| 3       | Pedda Cheruvu (Nacharam)     | 158.007             | 108.300             | 49.707                |
| 4       | Kapula Cheruvu (Turkayamjal) | 521.639             | 495.824             | 25.815                |
|         | <b>Total</b>                 | <b>869.670</b>      | <b>748.775</b>      | <b>120.895</b>        |

**Table-2: A comparison of Government Land as per G.O. and Final Notifications**

| Sl. No. | Name of the Lake        | Lake ID     | Government land (in acres) as per |                    |                   |
|---------|-------------------------|-------------|-----------------------------------|--------------------|-------------------|
|         |                         |             | October 2001 Government Order     | Final notification | Reduction in area |
| 1       | Mukkidi Cheruvu         | 4700        | 98.225                            | 20.275             | 77.950            |
| 2       | Nadimi Cheruvu          | 4702        | 92.525                            | 13.875             | 78.650            |
| 3       | Pedda Cheruvu, Nacharam | 3803        | 41.675                            | 14.550             | 27.125            |
| 4       | Kotta (kotha) Cheruvu   | 4707        | 23.550                            | 19.575             | 3.975             |
| 5       | Maisamma Kunta          | 1700/N/0042 | 23.450                            | 22.450             | 1.000             |
| 6       | Neela Cheruvu           | 1700/25     | 5.800                             | 0.050              | 5.750             |
| 7       | Meddala Kunta           | 3600        | 6.625                             | 4.250              | 2.375             |
|         | <b>Total</b>            |             | <b>291.850</b>                    | <b>95.025</b>      | <b>196.825</b>    |

<sup>2</sup> before taking up the Project

<sup>3</sup> after completion of Project

**Appendix-3.7**  
**(Reference to paragraph 3.1.4.2, page 50)**

**Lakes that have lost their characteristics**

| Sl. No. | Name of the lake                    | Village      | Mandal          | Remarks                                 |
|---------|-------------------------------------|--------------|-----------------|---|
| 1       | Ramantha Cheruvu                    | Taranagar    | Serilingampally | Fully encroached by houses              |
| 2       | Wadla Kunta                         | Taranagar    | Serilingampally | P.J.R stadium                           |
| 3       | Kotha Cheruvu                       | Taranagar    | Serilingampally | Graveyard                               |
| 4       | Bandam Kunta                        | Nanakramguda | Serilingampally | Fully filled up CK Convention           |
| 5       | Shamala Kunta                       | Ameerpet     | Khairtabad      | Shopping Complex established            |
| 6       | Yousufguda Tank                     | Yousufguda   | Khairtabad      | Krishna Kanth park                      |
| 7       | Shamala Kunta                       | Sanathnagar  | Ameerpet        | It is Boggula Kunta converted into park |
| 8       | Shanti Saravor Pond (Mysamma Kunta) | Gacchibowli  | Serilingampally | Converted into park                     |

*Source: Results of Joint Physical Verification*

**Appendix-3.8**

**(Reference to paragraph no. 3.5, page no. 61)**

**Statement showing the list of works selected**

| Sl.No. | Name of the Work   |
|--------|--|
| 1      | Pre-monsoon desilting of minor open nala/drains from Salar Bridge to KGN Kirana store to Madarsa& open nala from Mothi Darwaza to Syndrilla School & from Jamali Darwaza to Shatam Tank & Kandak from Mothi Darwaza to HUDA Park under Nanal Nagar-71, Ward-10, Division-7A, (Central zone), GHMC for the year 2015-16 |
| 2      | Pre-monsoon desilting of major nala from Syndrilla School to HUDA Park via Ahmed Colony under Nanal Nagar-71, Ward-9, Division-7A (7), GHMC for the year 2015-16   |
| 3      | Pre-monsoon desilting of Storm water drain pipe line and catchpits under Langer House-69, Ward-9, Division-7A, (Central zone), GHMC for the year 2015-16   |
| 4      | Desilting of storm water drain nalas and catch pits at Indira Nagar MP & MLA Colony Road No.10,31,33,36,41 and KBR Park to Road No.44 (Peddamma temple lane) and by-lanes Jubilee Hills Division No.10B (Central zone) GHMC for the year 2015-16   |
| 5      | Pre-monsoon desilting of Balkapurnala from Pension payment office to Bolapur bridge via A-plus Research Center in Ahmed Nagar-72, Division-7A(7),GHMCfor the year 2015-16  |
| 6      | Pre-monsoon desilting of Balkapurnala from Bolapur bridge to Afzal Kirana store and Storm water drains in Ahmed Nagar-72, Ward-10, Division-7A (7), GHMC for the year 2015-16  |
| 7      | Desilting of Balkapur major nala from BJR Nagar to Salar bridge via MG Nagar, Fatima Masjid Hakimshah colony and Maruthi Nagar to Ambedkar Nagar Graveyard Shaikpet Division-10B (Central zone) GHMC   |
| 8      | Pre-monsoon desilting of A) Afzal kirana store B) Bolapur Bridge to Afzal Kirana Store and storm water drains and C) Pension Payment office to Bolapur Bridge via A-plus Research Centre in 74-Ahmed nagar Corporator Division (Division-7A) in Ward no.10, GHMC for the year 2016-17                                  |
| 9      | Desilting of Kachanala from Kapra Cheruvu down stream to Dhammaiguda main road culvert near Ganesh temple and from Vampuguda village to Graveyard and Valvarnagar to DLR Enclave in Ward No.1 of Kapra Circle, GHMC for the year 2015  |
| 10     | Pre-monsoon desilting of Picket nala from SP road to STP Plant in 148-Begumpet Corporator Division (under Division-18A), Secunderabad, GHMC for the year 2014-15   |
| 11     | Pre-monsoon desilting of Kukatpally nala from New bridge down to Varun motors (Temple backside) in 149-Begumpet Corporator Division (under Division-18A), Secunderabad, GHMC for the year 2016-17  |
| 12     | Pre-monsoon desilting of Dwarakadas nala, Prakash nagar Extension nala (beside Church) and Old Customs nala in 148-Begumpet Corporator Division (under Division-18A),Secunderabad, GHMC for the year 2016-17   |
| 13     | Pre-monsoon desilting of Kalasiguda nala from park lane to Minister Road in 148 Ramgopalpet Corporator Division (under Division-18A), Secunderabad, GHMC for the year 2016-17  |
| 14     | Pre-monsoon desilting of storm water drain/open big Nallavagu nala from Akbar Nagar Bridge to Arundathi Colony Bridge in Lalithbagh Division   |
| 15     | Pre-monsoon desilting of storm water drain in Uppuguda Division  |
| 16     | Pre-monsoon desilting of open nala from Falaknuma Bridge to Durdhana Cafe of Jangammet Division  |
| 17     | Pre-monsoon desilting of major nalas of Nasheman Nagar, Siddiq Nagar and Khan nagar for the year 2016-17 in Talabachanchalam Division-39   |
| 18     | Pre-Monsoon desilting of Storm water open big Nallavagunala from Edi Bazar Bridge to Akbar Nagar Bridge in Lalithabagh Division-28   |
| 19     | Pre-monsoon desilting of Storm water drain/nalas in Chandrayanagutta Division  |
| 20     | Pre-monsoon desilting of storm water drain Rahmanthpura nala via Kedia oil mill to Fiza Hotel nala Opposite Polytechnic from Function Hall to Rahmath Pural Indra Nagar Boston School Macca colony culvert Ansari road beside Khaled hotel to A1 Garden in Ramnaspura Division   |
| 21     | Desilting of nala from AVB puram (Ganesh Mandapam) to Sri Nagar in Ward No. 122 of GHMC, Kukatpally Circle Division-14   |



**Appendix-3.9**  
**(Reference to paragraph 3.9.5.6, page 80)**

**Variations between CLDMS data and factual position in respect of 7 out of 14 works test checked in Bhadradi-Kothagudem district**

| Sl. No. | Description of the work  | Estimated cost (₹) | Status of work as per CLDMS | Status of the work as per physical verification |
|---------|--|--------------------|-----------------------------|---|
| 1.      | Construction of CC Drains at Vikalangula Colony, Palvancha mandal                          | 20,00,000          | Data not available in CLDMS | Completed                                       |
| 2.      | Augmentation of DP scheme at Kothuru village   | 12,50,000          | Progress                    | Work not taken up                               |
| 3.      | Construction of class rooms at marwadi camp, old Kothagudem                                | 20,00,000          | Progress                    | Completed                                       |
| 4.      | Construction of Kothagudem Skill Development Centre  | 46,00,000          | Progress                    | Completed                                       |
| 5.      | Construction of CC road from Bhethu Bheemaiah (H) to Kinnera Bhumaiah (H) at Singaghupalem | 10,00,000          | Progress                    | Completed                                       |
| 6.      | Vegetable market in front of Rajiv park at ward no.16                                      | 10,00,000          | Progress                    | Work not taken up due to site problem           |
| 7.      | CC drains at Sri Rama Bhajana mandir, Palvancha  | 20,00,000          | Progress                    | Completed                                       |

Appendix-3.10

(Reference to paragraph 3.10, page 83)

Medical College details of activities taken up under the scheme

| Status  |   |
|---|---|
| <p><b>OMC, Hyderabad</b><br/> <b>GoI sanctioned outlay: ₹43.87 crore</b><br/> <b>Details of Sanction:</b><br/> <b>Infrastructure: ₹16.66 crore</b><br/> <b>Equipment: ₹25.12 crore</b><br/> <b>Faculty: ₹2.09 crore</b><br/> <b>Details of funds released:</b><br/> <b>GoI: 1<sup>st</sup> instalment of ₹16.45 crore consisting of Capital Grant: ₹15.66 crore and General Grant: ₹0.79 crore</b><br/> <b>II<sup>nd</sup> instalment of ₹13.16 crore</b><br/> <b>Funds not released by State Government: ₹17.548 crore</b><br/> <b>Funds released to TSMSIDC for provision of Infrastructure &amp; Equipment: ₹13.06 crore</b><br/> <b>Funds utilised: ₹7.78 crore</b><br/> <b>Balance funds available with: Medical College: ₹16.55 crore</b><br/> <b>TSMSIDC: ₹5.28 crore</b><br/> <b>Additional PG seats to be increased: 113 in 15 disciplines</b><br/> <b>Seats actually increased: 92 PG (81 per cent of the target) in 13 disciplines</b></p> | <p><b>Civil Infrastructure:</b></p> <ul style="list-style-type: none"> <li>Administrative sanction for ₹6.23 crore for civil works in respect of nine<sup>4</sup> medical disciplines was accorded in October 2012/August 2015. An amount of ₹6.23 crore<sup>5</sup> was deposited (November 2012<sup>6</sup>/August 2015<sup>7</sup>) with the Corporation. Of which, an amount of ₹1.16 crore was expended in respect of seven medical disciplines.</li> <li>Although 14 seats were increased in the discipline of Orthopaedics by the college and the Empowered Committee had provided an amount of ₹12.50 crore, Orthopaedic block with an estimated cost of ₹4.69 crore was not taken up. Even the site was not yet handed over to the Corporation. Principal stated (May 2018) that the proposal submitted by the Orthopaedic Department was being forwarded to the DME. Thus, an amount of ₹5.07 crore remained locked with the Corporation for over five years.</li> <li>The college could not provide audit, information on the dates of completion and handing over the buildings to the respective medical departments.</li> </ul> <p><b>Equipment:</b></p> <ul style="list-style-type: none"> <li>The Empowered Committee had recommended procurement of equipment to the extent of ₹25.12 crore. Of ₹6.83 crore deposited with the Corporation (January 2014, January/February 2015) for equipment in seven departments, ₹6.62 crore was incurred leaving an unspent balance of ₹0.21 crore with the Corporation.</li> </ul> <p><b>Increase in PG seats:</b></p> <ul style="list-style-type: none"> <li>21 seats in respect of the disciplines of Anatomy (3), Physiology (10) and Anaesthesiology (8) were not increased. College stated (May 2018) that proposals have been submitted in respect of the disciplines of Anatomy and Physiology. Action plan in place for creation of the remaining seats was not submitted to GoI despite GoI<sup>8</sup> calling for the details.</li> <li>In respect of 92 seats increased in 13<sup>9</sup> disciplines, although an amount of ₹24.07 crore was estimated by the Technical Evaluation Committee, only an amount of ₹6.48 crore (27 per cent of the estimated funds) was expended. Thus the requisite equipments commensurate with the seats increased were not provided.</li> <li>30 seats in these identified disciplines were yet to receive the recognition of Medical Council of India (MCI). Reasons for non-recognition, though called for, were yet to be received from the College.</li> </ul> <p><b>Teaching staff:</b></p> <ul style="list-style-type: none"> <li>In an assessment conducted by MCI (March 2018) of the availability of the teaching staff, shortfall of teaching staff to the extent of seven<sup>10</sup> (three per cent) in the disciplines where PG seats were to be increased by the College. Audit observed that the college had not utilized the grant of ₹0.79 crore released towards faculty on the plea that guidelines for utilization of the grant were not received from the DME. It was also stated that the DME would be addressed in this regard.</li> </ul> <p><b>Utilisation Certificates:</b></p> <ul style="list-style-type: none"> <li>Though ₹7.78 crore was incurred out of ₹16.45 crore released by GoI, UC was furnished for ₹13.91 crore. Medical College in its reply (November 2018) stated that the UC furnished (June 2018) to GoI was in respect of funds released to TSMSIDC. Incidentally, Audit observed that an amount of ₹5.28 crore was still available with TSMSIDC.</li> </ul> |

<sup>4</sup> (i) Anatomy: ₹18.75 lakh (ii) Physiology: ₹11.25 lakh (iii) Orthopaedics: ₹468.75 lakh (iv) Dermatology: ₹9.38 lakh (v) Pharmacology: ₹22.50 lakh (vi) Forensic Medicine: ₹0.75 lakh (vii) Anaesthesiology: ₹56.25 lakh (viii) ENT: ₹29.63 lakh and (ix) Community Medicine: ₹7.50 lakh

<sup>5</sup> ₹6,15,75,000 vide DD.No. 017675, dated 8 November 2012 and ₹7,50,000 vide DD No. 058241, dated 21 August 2015

<sup>6</sup> ₹6.16 crore vide DD No. 017675, dated 8 November 2012

<sup>7</sup> ₹0.07 crore vide DD No. 058241, dated 21 August 2015

<sup>8</sup> Lr. No. U.14017/36/2018 ME II of Ministry of Health & Family Welfare (ME. II Sn), dated 31 May 2018

<sup>9</sup> Pathology (10); Community Medicine (3); Forensic Medicine (8); ENT (3); Anaesthesiology (9); MD/Tropical Medicine/Pulmonary Medicine (2); Pharmacology (8); Microbiology (2); Radio Diagnosis (2); Dermatology (6); General Surgery (22); Bio-chemistry (3) and Orthopaedics (14)

<sup>10</sup> Anatomy: 1 Professor & 2 Assistant Professors; Community Medicine: 2 Assistant Professors & 1 Statistician and Dermatology: 1 Professor

|   |  |
|---|--|
|   | Thus, college submitted an UC without actually incurring expenditure on the envisaged items of the scheme.   |
| <b>KMC, Warangal</b><br><b>GoI sanctioned outlay: ₹10.46 crore</b><br><b>Sanctioned for:</b><br><b>Infrastructure: ₹0.98 crore</b><br><b>Equipment: ₹9.34 crore</b><br><b>Faculty: ₹0.14 crore</b><br><b>Details of funds released:</b><br><b>GoI: 1<sup>st</sup> instalment of ₹3.97 crore</b><br><b>II<sup>nd</sup> instalment of ₹1.51 crore</b><br><b>Funds not released by State Government: ₹4.18 crore</b><br><b>Funds released to TSMSIDC: ₹3.16 crore</b><br><b>Funds utilised: ₹3.73 crore (including an amount of ₹0.99 crore by the college itself)</b><br><b>Balance funds available with:</b><br><b>Medical College: ₹1.33 crore</b><br><b>TSMSIDC: ₹0.42 crore</b><br><b>Additional PG seats to be increased: 89 in 18 disciplines</b><br><b>Seats actually increased: 33 PG (37 per cent of the target) in nine disciplines</b> | <p><b>Civil infrastructure:</b></p> <ul style="list-style-type: none"> <li>• Civil works in respect of four medical disciplines were undertaken. Out of deposit of ₹1.15 crore (November 2012/March 2013/January 2014), ₹25 lakh was utilized for repairs to existing building of General Surgery and Microbiology Departments. This was against GoI stipulation in the sanction order which allowed expenditure on new works only.</li> </ul> <p><b>Equipment:</b></p> <ul style="list-style-type: none"> <li>• ₹2.01 crore<sup>11</sup> was deposited (February 2013/March 2013) with the Corporation for procurement of equipment for four disciplines. Out of which, ₹19.50 lakh was utilized for construction of civil works. Equipment worth for ₹1.39 crore<sup>12</sup> was procured through TSMSIDC. There is an unspent balance of ₹42.70 lakh with the Corporation. In addition, the College purchased equipment for ₹0.99 crore.</li> </ul> <p><b>Increase in PG seats:</b></p> <ul style="list-style-type: none"> <li>• As against 89 PG seats to be increased in 18 specified disciplines, only 33<sup>13</sup> PG seats (37 per cent of the seats) had been increased by the College in nine disciplines.</li> <li>• In respect of 33 seats increased in 9 disciplines, although an amount of ₹3.32 crore was estimated by the Empowered Committee, only an amount of ₹0.02 crore was expended. Thus the requisite equipment commensurate with the seats increased were not provided.</li> <li>• 56<sup>14</sup> seats of the proposed seats were not increased. Action plan in respect of creation of these seats were not submitted to GoI. An amount of ₹7.51 crore was estimated by the Empowered Committee, in respect of 56 seats to be increased.</li> <li>• Forty eight seats in these identified disciplines were yet to receive the recognition of MCI.</li> </ul> <p><b>Teaching staff:</b></p> <ul style="list-style-type: none"> <li>• In an assessment conducted by MCI (March 2018) of the availability of the teaching staff, shortfall of teaching staff to the extent of 16<sup>15</sup> (eight per cent) in the disciplines where PG seats were to be increased by the College.</li> </ul> <p><b>Utilization Certificates:</b></p> <ul style="list-style-type: none"> <li>• The college had furnished (May 2018<sup>16</sup>) the UCs for the entire amount to GoI.</li> </ul> |
| <b>GMC, Hyderabad</b><br><b>GoI sanctioned outlay: ₹8.39 crore</b><br><b>Sanctioned for:</b><br><b>Infrastructure: ₹1.06 crore</b><br><b>Equipment: ₹6.38 crore</b><br><b>Faculty: ₹0.95 crore</b><br><b>Details of funds released:</b><br><b>GoI: 1<sup>st</sup> instalment of</b>   | <p><b>Civil Infrastructure:</b></p> <ul style="list-style-type: none"> <li>• Of ₹1.06 crore deposited (September 2012) with TSMSIDC for civil infrastructure, ₹0.93 crore was spent on six works. Audit observed that ₹0.23 crore was spent on renovation and repairs to seminar halls against the GoI stipulations which allowed expenditure on new works only.</li> </ul> <p><b>Equipment:</b></p> <ul style="list-style-type: none"> <li>• The college spent ₹2.17 crore (including an interest amount of ₹8 lakh) on procurement of equipment (TSMSIDC : ₹0.80 crore, College: ₹1.37 crore)</li> </ul> <p><b>Increase in PG seats:</b></p> <ul style="list-style-type: none"> <li>• As against 77 P.G. seats to be increased in 20 disciplines, only 43 PG seats (56 per cent of the target) had been increased by the College and 34 seats remain to</li> </ul>   |

<sup>11</sup> (i) Radiology: ₹1.50 crore (ii) Medicine Department: ₹10.50 lakh (iii) Community Medicine: ₹4.50 lakh and (iv) CD&TB : ₹36 lakh

<sup>12</sup> (i) Community Medicine: ₹1.39 lakh (ii) General Medicine: ₹24.95 lakh (iii) TB & Chest: ₹16.31 lakh and (iv) Radiology: ₹96.14 lakh

<sup>13</sup> Orthopaedics (6); General Surgery (9); Anaesthesiology (4); General Medicine (3); Dermatology (1); Ophthalmology (1); Paediatrics (2); I OBG (6) and TB & Chest (1)

<sup>14</sup> General Surgery (2); Anatomy (3); Physiology (3); Dermatology (2); Ophthalmology (4); OBG (2); Bio-chemistry (4); Pathology (12); Pharmacology (5); Community Medicine (6); Micro-biology (7); Forensic Medicine (5) and Radio Diagnosis (1)

<sup>15</sup> Anatomy: 1 Associate Professor; Physiology: 2 Assistant Professors; Community Medicine: 3 Assistant Professors; Orthopaedics: 4 Assistant Professors; Micro-biology: 2 Assistant Professors; Radio Diagnosis: 1 Associate Professor; Ophthalmology: 1 Professor and General Medicine: 2 Assistant Professors;

<sup>16</sup> vide RC No. 14017/30/2018 (ME-II) dated 31 May 2018

₹3.15 crore consisting of Capital Grant: ₹2.79 crore and General Grant: ₹0.36 crore  
II<sup>nd</sup> instalment of ₹2.52 crore  
Funds not released by State Government: ₹3.36 crore  
Funds released to TSMSIDC:  
₹1.86 crore being 59 per cent of the available amount  
Funds utilised: ₹1.73 crore  
Balance funds available with:  
Medical College: ₹2.44 crore  
TSMSIDC: ₹0.132 crore  
Additional PG seats to be increased: 77 in 20 disciplines  
Seats created: 43 PG (56 per cent of the target) in 12 disciplines

be increased as of May 2018. An amount of ₹5.04 crore had been provided for increasing the remaining 34 seats.

- Of the 43 seats increased in 12 disciplines, although an amount of ₹4.87 crore was estimated by the Empowered Committee, only an amount of ₹0.58 crore (12 per cent of the estimated funds) had been incurred. Thus the requisite equipments commensurate with the seats increased were not provided.
- Twenty Four seats in these identified disciplines were yet to receive the recognition of MCI.

**Teaching staff:**

- In an assessment conducted by MCI (March 2018) of the availability of the teaching staff, shortfall of teaching staff to the extent of 10<sup>17</sup> (five per cent) in the disciplines where PG seats were to be increased by the College.

**Utilization Certificates:**

- The college had furnished UCs to GoI for the first instalment released.

<sup>17</sup> Anatomy: 2 Associate Professors and 2 Assistant Professors; Physiology: 1 Assistant Professor; Pharmacology: 2 Assistant Professors; Community Medicine: 1 Associate Professors; Orthopaedics: 1 Associate Professor and 1 Assistant Professor

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## **Glossary**

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|        |   |  |
|--------|---|--|
| ABCWO  | : | Assistant Backward Classes Welfare Officer                       |
| ADP    | : | Additional Development Premium                                   |
| AMR    | : | Automatic Meter Reading  |
| APIIC  | : | Andhra Pradesh Industrial Infrastructure Corporation             |
| ASCI   | : | Administrative Staff College of India                            |
| BOD    | : | Biological Oxygen Demand   |
| CANs   | : | Consumer Account Numbers   |
| CDP    | : | Constituency Development Programme                               |
| CLDMS  | : | Constituency Level Development Monitoring System                 |
| CPHEEO | : | Central Public Health and Environmental Engineering Organisation |
| CPO    | : | Chief Planning Officer   |
| CSR    | : | Corporate Social Responsibility                                  |
| cumecs | : | Cubic metres per second  |
| DBCDO  | : | District Backward Classes Development Officer                    |
| DCW    | : | Deposit Contribution Works                                       |
| DGPS   | : | Differential Global Positioning System                           |
| DHR    | : | Department of Health Research                                    |
| DI     | : | Ductile Iron   |
| DME    | : | Directorate of Medical Education                                 |
| DME    | : | Director of Medical Education                                    |
| DO     | : | Dissolved Oxygen   |
| DPR    | : | Detailed Project Report  |
| DPRE   | : | District Panchayat Raj Engineer                                  |
| DRC    | : | District Review Committee  |
| EA     | : | Executing Agency   |
| ELSR   | : | Elevated Level Service Reservoir                                 |
| EPANET | : | a software application tool                                      |
| EPC    | : | Engineering, Procurement and Construction                        |
| EPF    | : | Employees' Provident Funds                                       |
| FTL    | : | Full Tank Level  |
| GDWSP  | : | Godavari Drinking Water Supply Project                           |
| GHMC   | : | Greater Hyderabad Municipal Corporation                          |
| GLSR   | : | Ground Level Service Reservoir                                   |
| GMC    | : | Gandhi Medical College   |
| GoI    | : | Government of India  |
| GP     | : | Gram Panchayat   |

|         |   |  |
|---------|---|--|
| GWMC    | : | Greater Warangal Municipal Corporation                           |
| HCIP    | : | Hussainsagar Lake Catchment Area Improvement Project             |
| HMDA    | : | Hyderabad Metropolitan Development Authority                     |
| HMWS&SB | : | Hyderabad Metropolitan Water Supply and Sewerage Board           |
| HUDA    | : | Hyderabad Urban Development Authority                            |
| ICRISAT | : | International Crops Research Institute for the Semi-Arid Tropics |
| ISIP    | : | Information System Improvement Plan                              |
| IT      | : | Information Technology   |
| ITE&C   | : | Information Technology, Electronics and Communication            |
| JICA    | : | Japan International Cooperation Agency                           |
| KDWSP   | : | Krishna Drinking Water Supply Project                            |
| kl      | : | Kilo Litres  |
| KMC     | : | Karimnagar Municipal Corporation                                 |
| LPA     | : | Lake Protection Authority  |
| LPC     | : | Lake Protection Committee  |
| lpcd    | : | Litre Per Capita Per Day   |
| LRAC    | : | Local Research Advisory Committee                                |
| MBR     | : | Master Balancing Reservoir                                       |
| MCC     | : | Metro Customer Care  |
| MG      | : | Million Gallons  |
| MGD     | : | Million Gallons Per Day  |
| ML      | : | Million Litres   |
| MLA     | : | Members of Legislative Assembly                                  |
| MLC     | : | Members of Legislative Council                                   |
| MLD     | : | Million Litres per Day   |
| MoA     | : | Memorandum of Agreement  |
| MoEF    | : | Ministry of Environment and Forests                              |
| MPLADS  | : | Member of Parliament Local Area Development Scheme               |
| MPR     | : | Monthly Progress Report  |
| MRUs    | : | Multi disciplinary Research Units                                |
| MT      | : | Metric Tonne   |
| NFBS    | : | National Family Benefit Scheme                                   |
| NITHM   | : | National Institute of Tourism and Hospitality Management         |
| NLCP    | : | National Lake Conservation Plan                                  |
| NPCA    | : | National Plan for Conservation of Aquatic Eco-systems            |
| O&M     | : | Operation and Maintenance  |



|         |   |  |
|---------|---|--|
| OMC     | : | Osmania Medical College  |
| ORR     | : | Outer Ring Road  |
| PCB     | : | Pollution Control Board  |
| PD      | : | Personal Deposit   |
| PF      | : | Provident Fund   |
| PG      | : | Post Graduation  |
| PPP     | : | Public Private Partnership   |
| PPSWOR  | : | Probability Proportional to Size Without Replacement                       |
| QAT     | : | Quality Assurance Test   |
| QC      | : | Quality Control  |
| RCC     | : | Reinforced Cement Concrete   |
| RFP     | : | Request For Proposal   |
| rmt     | : | Running Metre  |
| RWHS    | : | Rain Water Harvesting Structures   |
| RWS     | : | Rural Water Supply   |
| SCADA   | : | Supervisory Control and Data Acquisition                                   |
| SDF     | : | Special Development Fund   |
| SDGs    | : | Sustainable Development Goals  |
| SERP    | : | Society for Elimination of Rural Poverty                                   |
| SPV     | : | Special Purpose Vehicle  |
| TC      | : | Total Coliform   |
| TDS     | : | Total Dissolved Solids   |
| TSEWIDC | : | Telangana State Education & Welfare Infrastructure Development Corporation |
| TSMSIDC | : | Telangana Medical Services & Infrastructure Development Corporation        |
| UC      | : | Utilisation Certificate  |
| UFW     | : | Unaccounted For Water  |
| ULBs    | : | Urban Local Bodies   |
| VAT     | : | Value Added Tax  |
| WTP     | : | Water Treatment Plant  |





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