CHAPTER II
PERFORMANCE AUDIT

HEALTH AND FAMILY WELFARE DEPARTMENT

2.1 Healthcare Services in Government Hospitals

Highlights

Government hospitals in the State offer preventive, promotive and curative services[7]. While these services including clinical and surgical interventions of a simple nature are delivered through Taluk Hospitals, the District, General and Women and Children Hospitals additionally offer Tertiary care facilities like Cardiology, Neurology, Paediatric surgery, Plastic surgery and Urology. A performance audit on Healthcare Services in Taluk, District, General and Women and Children Hospitals revealed the following:

A perspective plan prescribing a ti me frame for attaining the standardisation norms for infrastructure and manpower in the healthcare institutions was not prepared.

(Paragraph 2.1.6)

Inadequacies in infrastru cture facilities viz., pow er laundry, generators and deficiencies in n umber of beds were noticed in the hospitals test-checked.

(Paragraphs 2.1.8.2 and 2.1.8.3)

Failure of Kerala Medical Services Corporation Limited (KMSCL) in making suppliers to take back slow moving drugs resulted in loss of ₹ 2.91 crore to the exchequer.

(Paragraph 2.1.10.1)

Delays in obtaining test results of d rugs from the empanelled Drug Testing Laboratories resulted in administering sub-standard drugs to patients as s ome of these drugs were subsequently declared as 'Not of Standard Quality' by the laboratories.

(Paragraph 2.1.10.2)

Stock-out of essential drugs such as Amoxycillin, Ampicillin, etc., was noticed in the district warehouses of KMSCL and in the h ospitals test-checked.

(Paragraph 2.1.10.4)

KMSCL nullified shortfall in stock worth ₹ 21.23 crore without identifying reasons for the shortfall.

(Paragraph 2.1.10.5)

[7] Preventive healthcare consists of measures taken to prevent diseases. Promotive health care contributes to a population based health approach in primary care. Curative care seeks to cure an existent disease or medical condition

Trauma Care & Emergency Medical Services and Blood bank facilities were not available in many hospitals.

(Paragraphs 2.1.11.1 and 2.1.11.3)

Shortage of doctors was noticed in the hospitals test-checked.

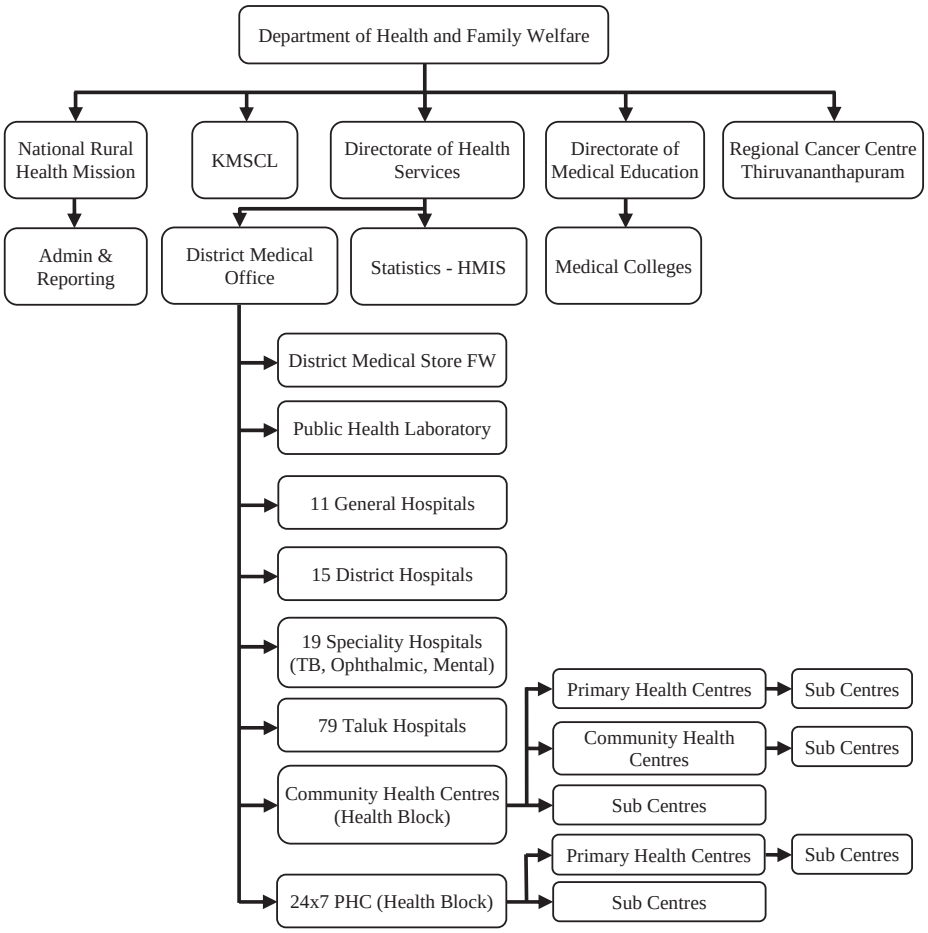
(Paragraph 2.1.13.1)

2.1.1 Introduction

Healthcare services are generally classified into preventive, promotive and curative services. The preventive and promotive services are delivered through primary level institutions such as Sub-Centres, Primary Health Centres and Community Health Centres. All institutions deliver curative services in varying capacity and standards.

2.1.2 Organisational set-up

The Secretary to Government, Health and Family Welfare Department is in overall charge of the health services in the State. The Director of Health Services (DHS) and the Director of Medical Education (DME) together are in administrative control of health institutions under the Government Sector. The organisational set up of Health and Family Welfare Department (Department) under which public health institutions are functioning is given in the organogram below:



Management of taluk hospitals within the Block Panchayath/Municipal area is vested with the concerned Block Panchayath/Municipal Corporation. The management of District Hospitals is vested with the respective District Panchayath.

2.1.3 Audit Objectives

The audit objectives of conducting performance audit were to assess whether:

- the planning process was adequate to improve quality of healthcare services;
- the financial resources were adequate and effectively used;
- adequate infrastructure and manpower were available to deliver the healthcare services in hospitals;
- proper system existed to ensure quality and adequacy in procurement and inventory management of drugs and equipments; and
- disposal of solid and bio-medical wastes generated by hospitals was as per norms.

2.1.4 Audit Criteria

Audit findings were benchmarked against the following criteria:

- Policies/strategies of the Directorate of Health Services in the annual plan;
- Budget documents, Appropriation and Finance Accounts and records of KMSCL;
- Norms for staff, infrastructure and other facilities for the hospitals as prescribed in the Standardisation Report approved by the State Government in 2008;
- Guidelines/instructions issued by the Central/State Governments for procurement of medical equipment and drugs;
- Provisions for the quality of drugs envisaged in the Drugs and Cosmetics Act, 1940, as amended from time to time; and
- Provisions in the Bio-Medical Waste (Management & Handling) Rules, 1998 for the disposal of solid and bio-medical waste.

2.1.5 Scope and methodology

Mention was made in the Audit Reports of C&AG of India, Government of Kerala (Civil) for the year ended 31 March 2009 and 31 March 2010 on the implementation of the National Rural Heath Mission (Paragraph 1.2) covering Primary Health Centres (PHCs) and Community Health Centres (CHCs) and functioning of the medical college hospitals (Paragraph 3.1) in the State respectively. The current performance audit on healthcare services in Government hospitals covered Taluk hospitals (TH), District Hospitals (DH), General Hospitals (GH) and Women and Children (W&C) Hospitals in the State under the control of DHS. Performance audit covering the period 2008-13 was carried out from April 2013 to July 2013 by test check of records in the

Department, the DHS, the District Medical Offices (DMOs), the KMSCL and 33[8] Health institutions selected from five[9] out of 14 districts. The sample health institutions were selected for detailed audit by adopting three-tier stratification sampling and PPSWOR[10]. As part of gathering evidence, physical verifications were conducted along with the departmental Officers and photographic evidence was obtained wherever possible.

An entry conference was held with the Principal Secretary to Government, Health and Family Welfare Department in April 2013 during which the audit objectives and criteria were discussed and audit methodology explained.

An exit conference was held in October 2013 with the Secretary to Government, Health and Family Welfare Department during which the audit findings were discussed in detail. Views of the State Government and replies of the departmental officers were taken into consideration while finalising the report.

Audit findings

2.1.6 Planning

State Government approved (May 2008) the Report of the Standardisation Committee[11] prescribing the standardisation norms for Medical Institutions in the State. For the early attainment of the norms fixed for infrastructure, manpower, etc., in health institutions, an effective planning process was essential for the Health Department to marshal its financial and human resources. Audit noticed that no appraisal was conducted by the department to identify the current status of the hospitals *vis-a-vis* the standardisation norms of the State Government. A comprehensive picture at the State level on the availability of major diagnostic services in the hospitals was not available with the DHS. A perspective plan prescribing a time frame for attaining the standardisation norms in the health institutions was not prepared by the Department. While the Department had an Annual Plan as part of the five year plan of the Department, it did not prescribe methodologies or lay a timeline to achieve the standardisation norms. Further, on the lines of the National Health Policy, 2002, only a draft Health policy was formulated which is yet to be adopted by the State Government (December 2013).

In the exit conference (October 2013), Secretary stated that an expert committee had been constituted to make an indepth study on the draft health policy, which would be finalised by December 2013. However, the policy has not been finalised so far (January 2014).

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[8] Five District hospitals, three General hospitals, 23 Taluk Hospitals and two W&C hospitals

[9] Alappuzha, Idukki, Kasaragod, Thiruvananthapuram and Thrissur,

[10] Probability Proportional to Size Without Replacement

[11] A committee constituted by the Government (May 2002) to recommend standards for service delivery, infrastructure, equipment and staff pattern under the Health Services Department. Meanwhile, GOI issued (February 2007), Indian Public Health Standards (IPHS) for institutions like PHCs, CHCs and Sub-Centres which was adopted by State Government. In respect of Taluk, District, General and Speciality Hospitals for which IPHS was not applicable, State Government accepted (May 2008) the Standardisation Committee Report of 2002 as the basic document for upgradation. IPHS for District Hospitals was issued by GOI in 2011

2.1.7 Funding

Consequent to adoption of the Kerala Panchayathi Raj Act, 1994, management of medical institutions upto DHs in the State had been transferred to Panchayathi Raj Institutions (PRIs). The expenditure on electricity and water charges, dietary charges, repairs/maintenance of buildings, day-to-day expenditure of hospitals were met by the PRIs from their budgetary allocations and by Hospital Development Committees (HDC)[12] from the collection charges on various services rendered by them. Salaries of doctors and staff, cost of drugs and equipment were met by the State Government. Since 2008-09, procurement of all drugs and equipment for the Government hospitals in the State was made through KMSCL, a State Government undertaking. While funds for the purchase of drugs for supply to hospitals under DHS/DME were made available to KMSCL by the State Government through budget allocation, the cost of equipment to be purchased for Government hospitals was released to KMSCL by the DHS on getting specific sanctions from the State Government. Details of funds provided by the State Government for pay and allowances of staff of hospitals under DHS, funds released by the State Government/DHS to KMSCL for procurement of drugs and equipment and expenditure incurred during 2008-13 are as given in **Table 2.1**.

Table – 2.1: Details of funds provided and expenditure

(₹ in crore)

Year	Pay & Allowances		Drugs			Equipment	
	Budget provision	Expen-diture	Budget Provision by the Government	Amount received by KMSCL from Government	Expend-iture[13] incurred by KMSCL	Amount[14] received by KMSCL from DHS	Expend-iture incurred by KMSCL
2008-09	926.35	929.69	129.67	95.03	134.79	-	-
2009-10	1032.11	1025.19	130.00	130.00	159.83	10.64	8.49
2010-11	1235.87	1260.83	145.00	145.00	167.04	15.83	12.75
2011-12	1762.35	1730.16	174.00	174.00	190.28	43.29	17.46
2012-13	1911.65	1897.21	200.00	200.00	333.51	14.64	7.84
TOTAL			**778.67**	**744.03**	**985.45**	**84.40**	**46.54**[15]

Source: Appropriation accounts and data obtained from KMSCL

Audit observed the following:

- The release of funds by State Government for the procurement of drugs was inadequate during 2008-13. KMSCL spent ₹ 985.45 crore as against the release of ₹ 744.03 crore from State Government. KMSCL stated that the shortfall was managed by utilising funds provided by State Government for equipment, other GOI/State Government schemes and funds from own sources such as service charges, penalties levied from suppliers, etc.

[12] HDCs are democratically constituted bodies which would maintain constant vigil on the working of the hospital concerned

[13] Expenditure on drugs includes seven *per cent* service charges

[14] Separate budget allocation for procurement of equipment is not available and it is clubbed with the sub-head 'Other Charges'

[15] Expenditure on equipment includes ₹ 3.23 crore collected by KMSCL towards seven *per cent* service charges

- Out of ₹ 84.40 crore received for procurement of equipment, KMSCL utilised only ₹ 46.54 crore. Equipment like ECG/X-ray machines, Ultra sound scanners, cytoscopy instruments, light source, etc., indented by the DHS were not procured leading to shortage of critical equipment in various hospitals as brought out in paragraph 2.1.9.2.

State Government introduced a scheme (November 2012) for distribution of free generic drugs to all patients (other than those who pay income tax) including those in pay wards. The scheme envisaged that expenditure for the scheme would be met from one *per cent* cess to be collected by the Kerala State Beverages Corporation Limited (KSBCL). Though KSBCL collected and remitted ₹ 26.01 crore to the State Government account, the amount was not transferred by State Government to KMSCL as of July 2013.

In the exit conference (October 2013), Secretary stated that modalities would be worked out in consultation with the Finance Department for releasing the amount to KMSCL.

2.1.8 Infrastructure

Development of infrastructure facilities in public health institutions as per standardisation norms is essential for providing quality medical services. PRIs in the State were entrusted with the management of hospitals upto district level. While PRIs meet recurring and maintenance charges of these hospitals, State Government and National Rural Health Mission (NRHM) meet expenditure on major civil works.

2.1.8.1 Uneven distribution of hospitals

As per the Report of Standardisation Committee, each taluk should have a TH and each district should have a DH. Against 63 taluks in the State, there were 80 THs as of March 2013. While seven taluks[16] did not have Taluk level hospitals, taluks such as Chirayankeezhu (Thiruvananthapuram district), Hosdurg (Kasaragod district), Thalappilly and Mukundapuram taluks (Thrissur district) were having more than one TH.

2.1.8.2 Inadequacies in infrastructure

The major items of infrastructure facilities to be provided in the THs, DHs, GHs and W&C hospitals as per the standardisation norms and the position of availability in respect of 33[17] hospitals test-checked are given in **Appendix 2.1**.

Some of the shortcomings in the available infrastructure noticed in the test-checked hospitals were as under:

- Out of the 23 THs test-checked, Communicable diseases ward and Geriatric and Palliative care ward were available only in four and three THs respectively. Only three out of five DHs have Communicable diseases ward and none of the DHs have Geriatric and Palliative care ward.

[16] Adoor, Kasaragod, Kozhencherry, Mananthavady, Mavelikkara, Thrissur and Tirur
[17] Taluk Hospital:23; District Hospital: 5; General Hospital: 3 and W&C Hospital: 2

- DH Mavelikkara - Buildings housing the various departments like the out-patient departments, pay wards, maternity, female surgical and post-operative wards were spread over an area of eight acres. They were not interconnected causing difficulty in shifting patients during emergencies. All buildings were in dilapidated conditions and the roof of the paediatric ward was leaking. In some places, plastering of the ceiling had fallen down exposing the paediatric patients to the risk of roof collapse. A small narrow room in an old tiled building was converted into an Intensive Care Unit (ICU). The ICU was not air-conditioned. The DHS stated (November 2013) that necessary directions would be issued to rectify the defects.

DH Mavelikara- Exposed ceiling in Paediatric Ward - 11 June 2013

ICU in DH Mavelikkara - 11 June 2013

- Mortuary facilities were not available in 15[18] test-checked hospitals. In GH Thiruvananthapuram, a freezer with four compartments to preserve four bodies was available. However, on the day of visit, audit noticed eleven bodies preserved against the total capacity of four. DHS stated (November 2013) that deficiency of facilities in GH Thiruvananthapuram, would be sorted out.
- Power laundry was not available in 26 out of the 33 hospitals test-checked. In the absence of power laundry, supply of clean linen to patients and hospital staff could not be ensured. In the exit conference (October 2013), Secretary agreed with the audit view on the need for providing power laundries in hospitals.
- Generators were not available in six[19] out of the 33 hospitals test-checked. Audit noticed that no operations were carried out in these hospitals because of non-functional theatres, lack of equipment, absence of surgeons/gynaecologists, etc. In DH Idukki, even though there was generator to service the Operation Theatre, out-patient departments were not supported with any power backup. Audit noticed crowded out-patient departments with doctors examining patients in candle light.

[18] DH Idukki, GH Alappuzha, TH Attingal, TH Chavakkad, TH Chelakkara, TH Chengannur, TH Irinjalakuda, TH Kayamkulam, TH Nemom, TH Nileshwaram, TH Peerumade, TH Pulinkunnu, TH Thuravur, TH Thrikkarippur and TH Vadakkanchery

[19] TH Attingal, TH Nileshwaram, TH Nemom, TH Pulinkunnu, TH Puthukad, and TH Thuravur

Doctors working in candle light-DH Idukki - 28 May 2013

- According to the standardisation norms, need-based diet should be supplied to patients in Government hospitals. However, audit noticed that four[20] hospitals in the test-checked districts did not provide any diet. DHS stated (November 2013) that PRIs were to supply the dietary articles in these hospitals. However, the fact remained that supply of need-based diet to the patients was not ensured either by the State Government or PRIs.

2.1.8.3 Bed strength in hospitals

The Standardisation Committee envisaged THs with bed strength of 250 and the DHs and GHs with bed strengths of 500. The available bed strength in hospitals with reference to the standardisation norms and sanctioned bed strength in the test-checked hospitals are given in **Appendix 2.2**.

A comparison of sanctioned bed strength in hospitals with the standardisation norms revealed that the sanctioned bed strengths were less than norms in respect of all test-checked hospitals except in the case of TH Cherthala and GH Thiruvananthapuram.

Fourteen out of the remaining 22 THs and two out of the five DHs test-checked had sanctioned bed strength of less than 50 *per cent* of the prescribed norms. In respect of three GHs test-checked, GH Kasaragod had bed strength 50 *per cent* less than the prescribed norms.

Further analysis showed that, even the reduced sanctioned strength of beds was not provided in six out of the 23 THs test-checked.

DHS stated (November 2013) that action was being taken for enhancement of bed strength in hospitals.

2.1.9 Medical Equipment and its availability in hospitals

2.1.9.1 Medical Equipment

Medical equipment constitute an integral part of diagnostic and treatment procedure in hospitals. Audit noticed that 93 medical items like C-Arm Mobile Image Intensifier, Ophthalmic operating microscope, equipment for trauma care unit, etc., remained unutilised in 11[21] test-checked hospitals. On analysis it was seen that 36 out of the 93 equipment were lying idle in TH Haripad (21)

[20] TH Nedumkandam, TH Pulinkunnu, TH Peerumedu and TH Thuravoor

[21] DH Mavelikkara, GH Alappuzha, TH Chengannur, TH Haripad, TH Irinjalakuda, TH Kayamkulam, TH Kodungallur, TH Puthukad, TH Thodupuzha, TH Thrikkaripur and TH Vadakanchery

and TH Thrikkaripur (15) for periods ranging between 2.5 and 3.5 years. In four hospitals, 15 items were lying idle for more than five years.

It was noticed that the equipment were not utilised mainly due to non-functioning of infrastructure facilities like operation theatre, labour room, blood storage units, etc., and shortage of staff. The department had not furnished any specific reply for the steps taken for making the equipment functional.

2.1.9.2 Availability of diagnostic equipment

ECG, X-ray and Ultra Sound Scanners are essential diagnostic equipment for providing quality medical care to patients. Audit noticed that Ultra Sound scanners were not available in 19 out of the 23 THs test-checked. None of the above facilities were available in THs Nemom and Attingal. The status of availability of diagnostic services in the test-checked hospitals is given in **Appendix 2.3**.

The Standardisation Committee recommended for making available CT Scanners in all District and General Hospitals. Audit noticed that CT Scanners were not available in the GH Alappuzha and in any of the DHs test-checked.

2.1.9.3 Safety measures in X-Ray centres

Atomic Energy Regulatory Board (AERB) guidelines (August 2004) on licensing of X-ray units provide for issuing of licence for operating radiation installations after inspecting the working practices being followed to ensure adherence to prescribed safety standards, availability of appropriate radiation monitors and dosimetry devices for purposes of radiation surveillance, etc. In Kerala, the Director of Radiation Safety (DRS) is the authorised agency to issue licences on behalf of AERB.

Audit noticed that 27 out of 33 hospitals test-checked offered X-ray services. However, in 18[22] out of the 27 hospitals, X-Ray machines were operated without obtaining Certification of Safety from the DRS. Superintendents of four[23] hospitals stated that necessary steps were being taken to obtain certification from DRS and to provide Thermo Luminescence Dosimeter (TLD) film badges to technicians.

Audit noticed that the technicians manning the X-ray units in 17[24] hospitals were not provided with TLD film badges to indicate levels of exposure to radiation. In the absence of TLD badges and safety certification from the DRS, audit could not obtain reasonable assurance that patients and technicians were not being exposed to more than permissible radiation levels.

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[22] DH Mavelikkara, DH Peroorkada, DH Thrissur, GH Alappuzha, TH Adimaly, TH Chalakudy, TH Chavakkad, TH Chelakkara, TH Chengannur, TH Haripad, TH Irinjalakuda, TH Kayamkulam, TH Nedumkandam, TH Peerumade, TH Thodupuzha, TH Thuravur, TH Vadakkancherry and TH Varkala

[23] DH Mavelikkara, TH Chavakkad, TH Haripad and TH Thodupuzha

[24] DH Idukki, DH Kanhangad, DH Mavelikkara, DH Thrissur, GH Thiruvananthapuram, TH Adimali, TH Chelakkara, TH Chengannur, TH Haripad, TH Irinjalakuda, TH Kayamkulam, TH Kodungallur, TH Kunnamkulam, TH Pulinkunnu, TH Thuravur, TH Vadakkancherry, and TH Varkala

DRS stated (August 2013) that most of the public sector medical institutions neglected the mandatory conditions despite issue of repeated directions.

2.1.10 Procurement and management of drugs and medical devices

2.1.10.1 Procurement of drugs without the stipulated shelf-life

Tender conditions of KMSCL required that the drugs supplied should have the stipulated shelf-life. There was also provision in the tender documents that the tenderers shall take back drugs which were not utilised by KMSCL within the shelf-life period based on mutual agreement. To minimise the expiry of drugs in the hospitals and warehouses, an efficient system of First Expiry First Out (FEFO) method was to be followed by KMSCL.

Audit scrutiny revealed that KMSCL procured 321 drugs comprising 16,529 batches costing ₹ 92.66 crore without the stipulated shelf-life during 2008-13. KMSCL was also not following an effective FEFO method for issue of drugs to hospitals. During 2008-13, drugs costing ₹ 2.91 crore became time expired and the KMSCL did not take any action to get the same replaced by the suppliers as stipulated in the tender conditions. Thus, failure on the part of KMSCL to follow the tender conditions resulted in a loss of ₹ 2.91 crore to State Government.

In the exit conference, Secretary agreed with the audit findings and stated that a detailed audit would be conducted at the KMSCL after consultation with the Finance Department.

2.1.10.2 Testing of drugs

According to the procedure prescribed and followed by KMSCL, all batches of drugs procured were to be subjected to quality tests through its empanelled laboratories. According to the standard operating procedure followed by KMSCL for ensuring quality of drugs, the empanelled quality testing laboratories were required to submit test reports of sterile and non-sterile[25] samples within 15 and 30 days respectively from the date of receipt of the samples by them. Drugs declared as 'Not of Standard Quality (NSQ)' were to be frozen and not to be issued to hospitals. It was also seen that out of 37,112 batches, in 25,342 batches the empanelled laboratories failed to submit the test result within the stipulated time. Analysis revealed that, in 970 batches the delay ranged from 50 to 100 days, in 155 batches the delay ranged from 101 to 200 days, in 41 batches the delay ranged from 201 to 300 days and in four batches the delay was between 300 and 395 days.

Audit noticed that during 2008-13, only 37,112 out of 47,650 batches of 1,158 drugs procured were tested for quality and 382 batches were declared as NSQ. Out of the above, only 260 batches of drugs were frozen at the warehouses of KMSCL and the remaining 122 batches of the substandard drugs were issued to hospitals due to delay in receipt of test results. In 23 out of the 33 hospitals test-checked, it was noticed that the delay in receipt of intimation of NSQ drugs resulted in administration of sub-standard drugs to patients.

[25] Sterile products refer to products that are free from microbial organisms eg. Injection, sutures, etc. and products which are not sterile are termed as non-sterile

Audit scrutiny also revealed that certain drugs like insulin, anti-venom and anti-rabies vaccine, paracetamol, antibiotics, etc., purchased by KMSCL were not subjected to quality tests despite KMSCL collecting Handling and Testing charges of ₹ 3.58 crore from the suppliers of these drugs during review period. By not conducting the required quality tests, the risk of patients consuming substandard drugs cannot be ruled out.

The Secretary in the exit conference stated that the delay in obtaining results from the laboratories would be looked into. He also agreed that the risk of administering NSQ drugs to patients was a very serious issue and would be taken care of on priority basis.

Regarding non-testing of drugs, KMSCL stated (September 2013) that drugs requiring cold storage conditions, X-ray films and chemicals, etc., were not tested as no empanelled laboratory had provisions for their testing. However, the reply does not explain why drugs like paracetamol, antibiotics etc. were not sent for testing.

2.1.10.3 Presence of expired drugs in hospital wards

Drugs with expired shelf life were to be reckoned as bio-medical waste and not to be consumed. Audit noticed that in six[26] hospitals, lack of monitoring of the life cycle of drugs resulted in their time expiry. Expired drugs were stored in various nursing stations and wards along with normal drugs for eventual distribution to patients. In TH Attingal, expired drugs like Metoclopramide Injection and Adrenaline Injection were kept along with normal drugs in the ward.

In the exit conference, the Secretary stated that presence of expired drugs in hospital wards was due to lack of computerisation of pharmacies and stores and assured that necessary instructions would be issued to hospitals.

2.1.10.4 Stock-out of drugs in warehouses/hospitals

Ensuring the uninterrupted supply of essential drugs to hospitals plays a vital role in the delivery of quality healthcare services in hospitals. KMSCL was to ensure stocking of sufficient quantity of essential drugs in its warehouses. Analysis of the stock of essential drugs in KMSCL as on 31 March of each year during the period 2008-12[27] revealed that essential items of drugs including vital drugs such as Amoxycillin, Ampicillin, Cloxacillin, etc., were out of stock in the warehouses. It was observed that there was stock-out of 35 to 48 *per cent* of items of essential drugs in the warehouses as on 31 March of each year during the period 2008-12. Maximum shortage of drugs ranging from 61 to 66 *per cent* was noticed in the Wayanad and Kasaragod district warehouses of KMSCL. Stock-out of drugs in warehouses resulted in stock-out of drugs in hospitals. In test-checked hospitals, audit noticed stock-out of essential drugs on the dates of visit by audit. The stock-out of drugs resulted in purchase of drugs by the patients from private medical shops. The

[26] GH Thiruvananthapuram, TH Adimali, TH Attingal, TH Irinjalakuda, TH Nemom and TH Thrikkarippur

[27] Figures relating to 2012-13 were not available at the time of audit

Superintendent, W&C hospital, Alappuzha attributed the stock-out of drugs in the hospital to irregular supply of drugs by KMSCL.

2.1.10.5 Huge variation in physical stock and system stock of drugs

Audit analysis revealed that KMSCL had not conducted the annual/periodical physical verification of stock with the system stock from its inception in November 2007. The statutory auditors of KMSCL pointed out the variation in physical stock *vis-à-vis* system stock of KMSCL in the audit reports for 2008-09 and 2009-10. But, KMSCL conducted a detailed stock taking of drugs only in March 2013. The physical stock taking by KMSCL in its drug warehouses revealed variations to the extent of ₹ 21.23 crore between the actual stock available in the warehouses *vis-à-vis* system stock maintained in KMSCL. KMSCL decided to introduce a process wherein the excess and shortage would be nullified and making the system stock equal to the stock physically available in the warehouses as on 1 April, 2013. For this, it was decided to create fictitious purchase orders (POs)/Material Issue Notes (MINs) in the name of fictitious suppliers/institutions. Based on these fictitious POs and MINs, the net shortage of stock of ₹ 21.23 crore in the warehouses was nullified and physical stock was taken as system stock. This is not a standard accounting procedure to set right a system stock, and hence the possibility of using this practice for stock misappropriation could not be ruled out.

The Governing Body of KMSCL while ratifying the action of the Managing Director in making the system stock equal to the stock physically available in warehouses as on 1 April 2013, directed to find out the reasons for the variation. But KMSCL did not analyse the causes of variation as of September 2013.

Audit observed that the deficiency in inventory management could have been rectified, if stock taking had been done periodically. Due to non-conducting of stock taking, there was accumulation of huge shortage of stock over the years making it difficult for KMSCL to evaluate the reasons for variation and take corrective measures.

Audit noticed that while in the case of time expired drugs, KMSCL obtained orders from the State Government to write off ₹ 1.13 crore, but shortage of stock worth ₹ 21.23 crore was nullified by the Governing Body without obtaining any orders from State Government. This requires detailed investigation.

In the exit conference, Secretary stated that a detailed audit would be conducted in consultation with the Finance Department.

2.1.10.6 Procurement of medical devices at higher price

KMSCL in its tender documents stipulated that the type, nature and quality of evaluation tests were the prerogative of its technical committee. Audit noticed that in the case of supply of medical devices for 2011-12, tenders of 10 out of 11 firms were rejected on technical grounds. There was undue delay in finalisation of tenders and placing purchase orders resulting in stock-out position in warehouses and hospitals during 2011-12. Citing urgency of the situation, KMSCL placed supply orders with M/s B.Braun Medicals India Ltd., the only firm approved by the Technical Committee for 10 items of

medical devices. The rates quoted and approved for procurement of six items from this supplier during 2011-12 were higher than the prices at which these products were procured by the MCT[28] during the same period by ₹ 4.35 crore. Similarly, during 2011-12 the KMSCL procured IV set with needle at the rate of ₹ 24 per unit. KMSCL procured the same item during 2010-11 and 2012-13 at the rate of ₹ 3.28 and ₹ 10.10 per unit respectively. As the MCT rate was not available, audit made a cost comparison of this item purchased in 2011-12 with respect to the cost of the item procured in 2012-13 and found that the KMSCL incurred an extra expenditure of ₹ 3.05 crore. Thus, KMSCL incurred an additional expenditure to the tune of ₹ 7.40 crore in the above purchases. KMSCL admitted the audit observations and stated that they were forced to procure the drugs from M/s B.Braun Medicals India Ltd due to acute shortfall of drugs in hospitals.

The reply is not acceptable as KMSCL also admitted that it had not fixed any timeline for finalisation of tenders. The delay in finalisation of tenders and resultant additional expenditure of ₹ 7.40 crore could have been prevented if specific timeline for finalisation of tenders was stipulated and adhered to.

2.1.11 Services

The standardisation norms of the State Government stipulated making available casualty services in THs also. Audit noticed that two[29] out of 33 hospitals test-checked did not provide casualty services in THs. General, District and W&C hospitals must provide 24x7 services in laboratory, pharmacy, blood bank/blood storage, X-ray and ECG while THs were to provide these services at least till 5 PM. Major services in hospitals were analysed in audit and the results are given in succeeding paragraphs.

2.1.11.1 Trauma Care and Emergency Medical Services

The standardisation norms provided for availability of Trauma Care and Emergency Medical Services in the THs, DHs and GHs. Audit noticed the following:

- Trauma Care and Emergency Medical Services were not available in 22 THs, five DHs and three GHs test-checked.
- In the GH Alappuzha, a building exclusively for Trauma Care Unit was completed (February 2011) at a cost of ₹ 1.83 crore but the unit has not yet started functioning (July 2013) due to lack of equipment and additional manpower.
- A building for Trauma Care constructed in TH Haripad at a cost of ₹ 49.56 lakh was completed in November 2009 and was not functional due to lack of manpower. Instead, it currently accommodates a casualty wing and an operation theatre.

The importance of having a fully equipped Trauma Care Unit can be gauged from the fact that the number of persons admitted to the GH Thiruvananthapuram, as a result of injuries sustained in road accidents shot up

[28] Medical College Thiruvananthapuram
[29] TH Thuravur in Alappuzha and TH Nileshwaram in Kasaragod districts

from 212 cases in 2009-10 to 2204 in 2012-13. However, the hospital still does not have a Trauma Care Unit.

2.1.11.2 Speciality services in hospitals

According to the standardisation norms THs, DHs, GHs and W&C hospitals were to offer stipulated speciality services[30].

Audit noticed that except DH Kanhangad, DH Thrissur, GH Kasaragod, TH Chalakudy and TH Thodupuzha, no other Government hospital in the test-checked districts provided all the required speciality out-patient (OP) services as per standardisation norms. The details of speciality OP services not available in the other test-checked hospitals are given in **Appendix 2.4**.

2.1.11.3 Blood banks

Blood banks/storage centres are an essential element in the functioning of Taluk, District, General and W&C hospitals as stipulated in the Standardisation Committee Report and Government order dated 22 February 2010. Licence issued by the Drugs Controller (DC) is mandatory to run a blood bank. Application for blood bank licence should be submitted by the hospital authorities to the DC along with a 'No Objection Certificate (NOC)' from Kerala State Blood Transfusion Council. On receipt of the application, the DC may issue the licence. Application for renewal should be submitted three months before the expiry of licence following the same procedure. Audit noticed the following:

- There was no blood bank in GH Alappuzha. The blood banks at DH Thrissur, GH Thiruvananthapuram, GH Kasaragod and W&C hospitals at Thiruvananthapuram and Alappuzha were functioning without renewing their licences. The Blood Storage Centre at DH Mavelikkara was non-functional since July 2012 due to equipment failure.
- Out of the 23 THs test-checked, only TH Irinjalakuda had blood storage centre. Further, audit noticed that the blood bank/blood storage centres sanctioned by State Government in six[31] THs, were not functioning due to lack of infrastructure facilities/trained manpower.

In the absence of blood banks in the hospitals, patients had to depend on private blood banks for obtaining blood.

In the reply, DHS stated (November 2013) that action was being taken to operationalise blood banks/storage centres in respect of the six hospitals by obtaining NOC from the authorities concerned.

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[30] Taluk hospitals: General Medicine, General Surgery, Obstetrics & Gynaecology, Paediatrics, Anesthesia, ENT, Ophthalmology, Dermatology, Orthopedics, Psychiatry, Clinical Pathology and Dental Surgery
Additional services in District and General Hospitals: Radiology, Forensic medicine, Physical Medicine & Rehabilitation
W&C hospital: Medical, Surgery, Gynaecology, Paediatrics, Anesthesia, Clinical Pathology and Radiology

[31] TH Chalakkudy, TH Chavakkad, TH Cherthala, TH Kodungalloor, TH Peerumedu and TH Thodupuzha

2.1.11.4 Hospital Infection Control Standards

Accreditation of hospitals by NABH[32] requires that the hospitals take adequate measures to prevent or reduce the risk of hospital associated infection among employees and in-patients. Two[33] of the hospitals test-checked were having NABH accreditation and hence required to adhere to Hospital Associated Infection Control. Audit noticed that in these hospitals, 219 children had contracted sepsis/pneumonia during 2012-13. The Superintendent, TH Cherthala attributed it to overcrowding in the obstetric wards, heavy rush of bystanders and the ward being situated on the top floor and consequent extreme heat. Superintendent of W&C hospital, Thiruvananthapuram, stated that the figures were high on account of reporting of all presumed cases to the higher authorities.

2.1.12 Disposal of bio-medical waste

2.1.12.1 Disposal of bio-medical waste in hospitals

In 30 out of 33 test-checked hospitals, an agency named 'IMAGE' was engaged for disposal of bio-medical wastes. Under the programme, the hospitals were to segregate waste, store it in containers and bags and label it to be lifted daily by the personnel of IMAGE for disposal.

According to the Bio-Medical Waste (Management and Handling Rules) 1998, wastes from laboratory cultures, wastes from production of biological toxins, dishes and devices used for transfer of cultures were to be disposed of by local autoclaving/microwaving or incineration. However, it was seen during physical verification that untreated laboratory wastes and used IV tubes were being disposed off into drains and into the open causing danger to public health. Major observations were as under:

- In TH Chavakkad, the wastewater from labour room, operation theatre, Kerala Health Research and Welfare Society pay ward, female and paediatric wards, mortuary etc., was released into the nearby open drain without any pre-treatment.
- In TH Haripad, the Dialysis Unit with two dialysis machines, generated an average of 40 litres of bio-medical waste per patient, which was released into an open drain thereby polluting the nearby water bodies. Bio-medical liquid waste from the mortuary was also being released into the public drainage system.
- In TH, Nileswaram, even though bio-medical waste was being disposed of through IMAGE, used IV Tubes with needles attached to them were seen dumped behind the Tuberculosis Wards. In GH Alappuzha, empties of IV bottles along with used needles were seen dumped in the hospital premises. The hospital authorities reported (November 2013) that the wastes mentioned by audit has been removed.

[32] National Accreditation Board for Hospitals & Healthcare Providers
[33] TH Cherthala in Alappuzha district and the W&C Hospital in Thiruvananthapuram district

The DHS stated (November 2013) that ₹ 50 lakh has been allotted in 2013-14 for setting up of a sewage treatment plant in TH Chavakkad.

2.1.12.2 Preservation of viscera by Hospitals contrary to norms

Bio-Medical Waste (Management and Handling) Rules 1998 requires Human anatomical waste to be disposed either by incineration or deep burial. The Kerala Medico-Legal Code of the State Government stipulated that the medical officer was not bound to preserve the viscera in the mortuary for more than three months from the date of postmortem examination. However, audit noticed that the test-checked hospitals of DH Idukki, the THs at Peerumade and Nedumkandam and the GH at Thiruvananthapuram preserved viscera for long periods.

Post mortem viscera in DH Idukki - 28 May 2013

In the exit conference, Secretary stated that problem of preservation of viscera within the hospital premises beyond a reasonable time period would be resolved in consultation with the police authorities.

2.1.13 Human Resources

2.1.13.1 Availability of doctors

The availability and quality of healthcare services in hospitals largely depends on the adequacy of manpower in hospitals. Though State Government upgraded certain hospitals, audit noticed that necessary additional posts were not created in the upgraded hospitals. Against the request of the DHS (November 2010) to accord sanction for 2,514 posts to improve the poor services delivered by hospitals, 1,626 (65 *per cent*) posts of various categories were sanctioned.

The total number of medical officers in the hospitals depends on the number of speciality departments and the number of units under each department. The details of the number of doctors sanctioned and available are given in **Table 2.2.**

Table 2.2 – Shortfall of doctors against sanctioned strength

District	Taluk Hospital			District Hospital			General Hospital			W&C Hospital		
	Sanctioned Strength	Men in Position	Shortfall	Sanctioned Strength	Men in Position	Shortfall	Sanctioned Strength	Men in Position	Shortfall	Sanctioned Strength	Men in Position	Shortfall
Thiruvananthapuram	28	28	0	32	31	1	60	56	4	34	32	2
Alappuzha	90	78	12	27	24	3	45	39	6	25	24	1
Idukki	60	41	19	38	25	13	NA	NA	NA	NA	NA	NA
Thrissur	132	113	19	53	44	9	NA	NA	NA	NA	NA	NA
Kasaragod	16	14	2	39	25	14	39	18	21	NA	NA	NA

(Source: Details collected from the hospitals)
NA – Not applicable as there is no such hospital in the district

Audit analysis of the availability of doctors with reference to the sanctioned strength revealed the following:

- The number of doctors available in THs, DHs and GH in Thiruvananthapuram district and that in W&C hospitals was very close to the sanctioned strength.
- There was a shortfall of 19 doctors each in THs in Idukki and Thrissur districts against the sanctioned strength of 60 and 132 respectively. Regarding DHs in Idukki and Kasaragod districts, the shortage in number of doctors were 13 and 14 against the sanctioned strength of 38 and 39 respectively. In GH Kasaragod only 18 doctors were available against the sanctioned strength of 39 doctors.

In the exit conference, Secretary stated that measures such as better incentives, liberalisation of recruitment criteria, etc., were being taken to address the problem of shortage of doctors.

2.1.13.2 Inadequate posts of Medical Record Librarians

A medical record is an essential component in the treatment of patients which contains information required to plan, provide and evaluate the care given to patients. Medical Record Librarians (MRLs) are entrusted with accurate maintenance of medical records and statistics. However, audit noticed that posts of MRLs were not sanctioned in 22 of the 33 hospitals test-checked. Major institutions like the DH Idukki, DH Kanhangad and GH Kasaragod were functioning without the services of an MRL. In the absence of qualified MRLs, only minimal record maintenance services were being carried out through nursing assistants, etc.

In the exit conference, the Secretary stated that this matter would be taken care of once the project on e-Health[34] gets implemented.

2.1.14 Conclusion

Absence of a perspective plan and failure to prescribe a time frame for attainment of standardisation norms resulted in inability of the department to

[34] E-health is a newly conceived project of the Health and Family Welfare Department to capture the demographic data, automate hospital processes and bring all information into a centralised State Health Information System

optimally utilise its financial resources to enhance service delivery in Government hospitals. Lack of infrastructure and deficiency in human resources affected the quality of services delivered by hospitals. There was shortage of doctors in the hospitals test-checked. Blood storage centre was available only in one of the 23 THs test-checked. Basic facilities like availability of beds, diet, generator, power laundry, etc., were lacking in many hospitals. Presence of expired drugs in hospital wards, stock-out of drugs in pharmacies and non-adherence to timings in laboratory, pharmacy, X-ray and ECG centres affected the quality of services provided to patients. Trauma care and emergency medical services were not available in 30 hospitals test-checked.

The performance audit revealed instances of KMSCL procuring drugs without the stipulated shelf-life, procurement of drugs at higher prices, non-testing of drugs for quality and issue of sub-standard drugs to hospitals. During 2008-13, drugs costing ₹ 2.91 crore became time expired and the KMSCL did not take any action to get the same replaced by the suppliers as stipulated in the tender conditions.

2.1.15 Recommendations

State Government may consider:

- drawing a timeframe to enable early achievement of standardisation norms for infrastructure and human resources in Government hospitals;
- early intervention to address the acute shortage of critical health personnel in hospitals;
- setting up Trauma Care Centres in all hospitals;
- KMSCL enforcing standard operating procedures to expedite the testing process and avoid sub-standard drugs being issued to the hospitals; and
- KMSCL streamlining procurement procedure and stipulating timeline for finalising tenders in order to ensure timely and economic procurement of quality drugs and avoiding stock-out in warehouses/hospitals.

The above issues were referred to Government in October 2013; their reply had not been received (January 2014).

REVENUE DEPARTMENT

2.2 District-centric Audit of Wayanad

Highlights

The district-centric audit of Wayanad involved a performance audit of the significant socio-economic developmental programmes implemented in the district during 2008-13. The district has 31.24 per cent of the entire tribal population of the State and a number of schemes specially focusing on tribal development being implemented in the State were also examined during the course of the performance audit. The district is lagging behind the State average in terms of literacy, per capita income and with higher infant mortality and maternal mortality, school dropout rate, etc. Major audit findings are given below.

The District Planning Committee neither prepared Integrated District Development Plan nor consolidated the Local Development Plan. Vital data available with various agencies were not collected and utilised by the Local Self-Government Institutions while formulating plans.

(Paragraphs 2.2.7 and 2.2.7.1)

Adequate manpower and infrastructure as per the Indian Public Health Standards/norms were not available in Community Health Centres and Primary Health Centres.

(Paragraphs 2.2.9.1 and 2.2.9.2)

The percentage of severely under-weight children among tribal community was more when compared to other communities in the district.

(Paragraph 2.2.9.3)

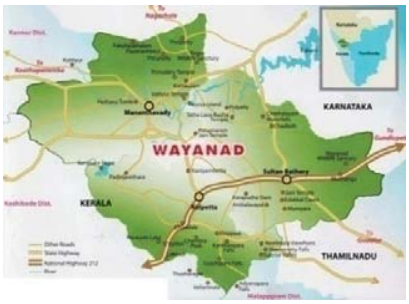
Dropout rate among tribal students was higher than the district average indicating that the SSA had not produced the desired results.

(Paragraph 2.2.10.2)

Out of 292 drinking water samples tested, only 44 samples conformed to the desired level of chlorination, indicating the method of chlorination was unscientific. Test results in more than 50 *per cent* of samples in 2011-12 showed presence of coliform bacteria and turbidity indicating that KWA failed to supply safe drinking water to the public.

(Paragraph 2.2.12.2)

2.2.1 Introduction



Wayanad District lies in the northern part of Kerala and stands on the southern tip of Deccan plateau at a height of 700-2000 metres above the sea level. The district spans an area of 2,132 sq. kms with forest area of 907.04 sq. kms. Wayanad is one of the two backward districts of the state, the other being Palakkad, and it is ranked thirteenth in terms of per capita income among the 14 districts of the State. The district has 8.02 *per cent* of the forest area in the State and accounts for 19.09 *per cent* of the Ecologically Fragile Land in the State. About 31.24 and 2.20 *per cent* of the ST/SC population respectively in the State lives in Wayanad district. While the State has a high level of Human Development Index, Basic Health indicators, literacy rate, etc., the corresponding figures in the district were relatively adverse *vis-à-vis* the state average in 2013 as given in **Table 2.3**.

Table 2.3: Details showing the Developmental Indices

	State	District
Infant Mortality Rate[35]	7[37]	11[37]
Maternal Mortality Ratio[36]	38[37]	47[37]
Dropouts in schools	1.05	1.73
Literacy	93.91	89.32
Per capita income[38]	63491	46507

Source: Departmental figures

The district consists of one Revenue Division, three Taluks, four Block Panchayaths, one Municipality and 25 Grama Panchayaths.

2.2.2 Administrative Set-up

The District Collector (DC) is the Head of the district. The DC is the Chairperson of various development bodies and committees of the district. In the district, there are District level offices and sub-offices for almost all Government departments. The departmental schemes are proposed by the departments concerned at the State level. The District Planning Committee (DPC) is the body at the district level which approves the Annual Plans prepared by Local Self-Government Institutions (LSGIs) and reviews the progress of the schemes. The District Planning Officer (DPO) is the Joint Secretary (Co-ordination) of the DPC and functions as the Secretariat of DPC.

[35] No. of infant deaths during the year X 1000
No. of live births during the year

[36] No. of deaths due to puerperal process X 1 lakh
No. of live births during the year

[37] The figures were furnished by the DHS. The figures were, however, at variance with the figures contained in the Sample Registration System (SRS) bulletin – 2013 published by the Registrar General of India. As per this data, Infant Mortality Rate for the state is 12 and Maternal Mortality Ratio 66. District wise figures are not available in the SRS bulletin. Due to the absence of district wise figures in SRS bulletin, latest figures furnished by the DHS has been adopted

[38] Gross State Domestic Product
Total Population

2.2.3 Scope of Audit

Audit undertook appraisal of social and economic sector programmes implemented in the district during the period 2008-09 to 2012-13 relating to health, education, water supply, tribal welfare, sanitation, agriculture, forest, etc. The audit focused on the role and responsibilities of the district administration in providing essential public services and improving the general standard of living of the people of the district.

2.2.4 Audit Objectives

The objectives of the audit were to assess whether:

- the planning process for different programmes was adequate and effective;
- the financial management was efficient and effective;
- the implementation of programmes/schemes was efficient, effective and economical; and
- an efficient monitoring mechanism was in place.

2.2.5 Audit Criteria

The audit criteria for assessing the implementation of various developmental programmes/schemes were derived from the following:

- Norms prescribed for providing human resources, infrastructure, services, etc., in the standardisation norms/Indian Public Health Standards for improving the healthcare facilities.
- Performance indicators set out by the Government of India (GOI) in the schemes for evaluating the impact on universal education, reduction in dropout rate, improvement of basic infrastructure facilities in schools, etc.
- Performance indicators/goals set out in schemes/programs framed by the Government for the welfare of tribal population.
- Sustainability and quality of drinking water as enunciated in National Rural Drinking Water Programme guidelines.
- Measures for conservation of forest land as prescribed in the Kerala Private Forest (Vesting and Assignment) Act, 1971.

2.2.6 Audit Methodology and coverage

An entry conference was held (9 May 2013) with the DC and the implementing officers of various schemes. In the meeting, the audit objectives, the scope of audit and the audit programmes were discussed. The audit involved examination of documents of offices at the District, Block and Grama Panchayath level. Photographic evidence and physical verification were also taken into consideration to substantiate the audit observations.

The audit was conducted during April - July 2013 covering the period 2008-13. Audit scrutinised the records of the office of the DC, District Planning Office, Deputy Director of Education, District Project Office, Sarva

Shiksha Abhiyan (SSA), District Medical Officer, District Health Society, National Rural Health Mission (NRHM), Principal Agricultural Officer, Divisional Office of Kerala Water Authority, line departments and Autonomous Bodies involved in the implementation of schemes. Further, Audit conducted test check of the records in the District Panchayath, one Block Panchayath[39] (out of four), six Grama Panchayaths[40] (out of 25) and the only Municipality (Kalpetta) in the district. An exit conference was held (26 September 2013) with the district authorities of the line department concerned headed by the DC, wherein the audit findings were discussed. Views of the departments were considered and incorporated in the report at appropriate places.

Audit findings

2.2.7 Planning

The Guidelines for district plans in the Eleventh Five Year Plan issued (August 2006) by the Planning Commission envisaged a district planning process for preparing an integrated plan for the district taking into account the resources available and covering the sectoral activities and schemes assigned to the district level and below, and those implemented through LSGIs. The State Government directed (February 2007) DPOs and LSGIs to prepare Local Development Plans (LDPs) for all LSGIs in a district and Integrated District Development Plan (IDDP) for each district under the auspices of DPC.

However, as the preparation of the IDDP for the district and consolidation of the LDPs for the LSGIs were not done by the DPC, the disparities between various regions within the district in respect of the developmental issues remained unidentified.

The DC stated (September 2013) that the district had already launched steps to prepare IDDP/LDPs and the delay in finalisation was due to paucity of funds and manpower.

2.2.7.1 Non-utilisation of data in planning process

The minutes of the DPC and District Development Council (DDC) revealed that statistical data available with various sources like Health Department, SSA, Kerala Water Authority, etc., were not utilised by the LSGIs while formulating schemes.

The District Planning Officer (DPO) stated (July 2013) that the data compiled by various departments on various aspects relating to human development were not utilized at the lower level while finalizing the plan due to the lack of co-ordination.

2.2.8 Financial Management

Funds are allocated to the district through the State budget for various developmental activities. In addition, funds are directly released to the implementing agencies for implementation of various socio-economic

[39] Mananthavady Block Panchayath
[40] Kottathara, Meenangadi, Panamaram, Sulthan Batheri, Thirunelli and Vythiri Grama Panchayaths

programmes by the Government of India (GOI). The State Government also allots funds directly to the LSGIs for implementation of schemes under decentralised planning programme.

The details of total flow of funds to the district during 2008-13 were not available either with the DC or with the DPO. They were also not maintaining a consolidated year-wise statement of total funds received and utilised for various developmental programmes/schemes implemented in the district.

The DC accepted the audit observation and stated that the details of funds allotted and received by various departments and expenditure were not available with the office as the funds were not routed through him.

The details of funds available and expenditure incurred in respect of departments/programmes as collected from the selected departments and institutions such as SSA, NRHM, etc., are given in **Table 2.4:**

Table 2.4: Details of funds available and expenditure of selected Departments/programmes

(₹in crore)

	Funds available	Expenditure
Education Department (including SSA)	73.98	69.80
Forest Department	67.35	58.87
Health Department (including NRHM)	50.21	48.23
Scheduled Tribes' Development Department	107.35	102.70
Social Justice Department (including Integrated Child Development Services)	36.46	36.06
National Rural Drinking Water Project	12.50	9.84
Suchitwa Mission (Total Sanitation Campaign)	6.28	5.91
TOTAL	**354.13**	**331.41**

Source: Departmental figures

During 2008-13, ₹ 331.41 crore was incurred for the above programmes in the district. Major portion of the expenditure related to the ST Development Department.

Audit findings relating to various departments under social and economic sectors are discussed below:

Social sector

2.2.9 Health

Large sections of the indigenous people in Wayanad district are socially and economically backward and more vulnerable to sickness. This calls for special efforts by the District Administration to focus on health sectors when compared to the other districts of the state. According to the Indian Public Health Standards (IPHS) 2006, there should be a Community Health Centre (CHC), Public Health Centre (PHC) and sub-centre for every 80,000, 20,000, 3,000 population respectively in hilly and tribal areas. In terms of these norms, the present requirement of CHCs, PHCs and sub-centres works out to 10, 40 and 272 respectively. However, the district had nine CHCs, 22 PHCs and 204 sub-centres. Thus, there was shortage of one CHC, 18 PHCs and 68 sub-centres in the district.

2.2.9.1 Infrastructure facilities/services

During 2008-13, out of expenditure of ₹ 48.23 crore as shown in **Table 2.4** above, ₹ 12.37 crore was incurred in the district by the Health and Family Welfare Department and NRHM for augmentation of facilities and infrastructure development. Many of the health centres test-checked lacked major infrastructure facilities and services as required under IPHS norms. The details are shown in **Appendix 2.5**. Audit observed the following.

- Out of eight CHCs, operation theatre in one CHC, blood storage facility in seven CHCs and ambulance in six CHCs were not available. Though labour room was available in seven CHCs, delivery service was available only in one CHC. Essential and emergency obstetrics care and essential new born care were not available in seven CHCs.
- Out of 20 PHCs, labour room was available only in three PHCs, but delivery service was not available in any of the PHCs. Laboratory services in 11 PHCs, cold chain room in eight PHCs and separate public utilities for male/female patients in 11 PHCs were also not available.

DMO stated (September 2013) that all these issues were taken up with the Government.

District Hospital, Mananthavady

District Hospital, Mananthavady (DH) is the one and only referral hospital in Wayanad District. In DH, there is no super speciality facility for cardiology or cardio-thoracic and vascular surgery considered desirable as per IPHS norms. However, equipment like ECG Machine, 12 channel stress ECG test equipment, tread mill, cardiac monitor, etc., provided to the hospital years back, were not utilised as no cardiologist has been posted to the hospital till date (September 2013). In para-clinical services, there was no physiotherapy unit. The microbiology unit was not functioning. Six out of eight major investigations in endoscopy could not be provided.

Government accorded sanction (November 2005) to enhance the bed strength of DH from 274 to 500 as the effective inpatient strength was more than 400 per day. Some of the works sanctioned by Government for augmenting the facilities were not taken up by the department in a time bound manner resulting in delay in construction of buildings and providing the required staff, equipment and other facilities as shown in **Table 2.5**.

Table 2.5: Details of works pending completion

(₹ in crore)

Name of Work	Year of sanction	Estimated cost	Expenditure	Remarks
120 bedded Surgical ward	2006-07	1.93	1.94	The work was taken up in March 2007. The structure of the building was completed and other works were in progress.
80 bedded ward	2008-09	0.75	0.75	Construction of building was completed in November 2013. Required staff, furniture and other facilities have not been provided as of December 2013.
Trauma Care Unit	2005-06	1.01	1.01	The work of trauma care unit was commenced in November 2005. Civil Works of trauma care unit ward have been completed and started functioning from November 2013. Operation theatre was not functioning as equipment was not provided. Additional staff including Neuro-surgeon, other equipment etc., were also not provided.

Source: Records of DMO, Wayanad

2.2.9.2 Human resources

The Government issued (November 2008) orders for standardising the health institutions based on bed strength/field requirements and fixed the required staff strength in the PHCs and CHCs. As against 58 General Medical Officers (GMO) required in 21 PHCs, the Government sanctioned only 33 posts of GMOs. Similarly, against the requirement of 45 Specialist Doctors in CHCs, only two posts were sanctioned.

Admitting the audit observation, DMO stated (September 2013) that there was regular vacancy of 50-60 doctors in the district.

2.2.9.3 Delivery of health care facilities

Health indicators

The statistics relating to delivery at home/private hospitals/public hospitals and live birth, still birth, infant death, child death, etc., relating to tribal population were collected separately by the DMO till 2008-09. But collection of separate data for the SC/ST population was not made by the DMO thereafter. These details were very useful for identifying the specific health issues among the tribal population and for taking corrective measures. DMO stated (September 2013) that the statistical data were being collected in the prescribed proforma issued by the Director of Health Services (DHS) from time to time and the collection of data was stopped from 2009-10 on the introduction of Health Management Information System in 2009-10. The DHS clarified (October 2013) that they had not issued any direction to the DMO for discontinuing the collection of separate data.

The fact remains that the health indicators in respect of tribal population were not collected separately, analysed and remedial measures taken since 2009-10.

Maternal Mortality

According to IPHS, delivery services have to be provided in PHCs. In Wayanad District, there are 35 Government hospitals including 22 PHCs, out of which only five institutions[41] had delivery services.

[41] District hospital, Taluk Hospitals at Sulthan Bathery and Vythiri, General Hospital, Kalpetta and CHC Meenangadi

In Wayanad, during 2008-13, out of 72,795 deliveries, 33,229 were in Government hospitals, 37,567 in Private hospitals and 1,999 were domicile deliveries without skilled birth attendants. The lack of delivery services in the Government institutions explain the large (51.60 *per cent*) number of deliveries in private hospitals. The number of domicile deliveries seen in the context of the total number of such deliveries in the entire State brings to sharp focus the seriousness of this issue. Out of 3,180 cases of domicile deliveries reported in the State during 2010-2013, 988 cases (31.6 *per cent*) were in Wayanad.

Most of the cases of maternal deaths were of those who belonged to the tribal population. During 2008-09 to 2012-13, there were 51 deaths, out of which 32 were tribal women in the age group 19-35. In view of the poor health condition of the tribal women, more focused attention for providing nutritional support and medical attention during pregnancy is required. DMO stated (September 2013) that a nutritional supplementation programme targeting pregnant women and adolescent girls of tribal community was introduced recently in four Panchayaths.

Ante-Natal Care

Healthy mothers generally give birth to healthy children. Continued maintenance of good health of a mother is essential for the continued well being of the child. Considering this, the government provides facilities for health check-ups, supply of IFA tablets, etc. The details of ante-natal care provided during 2008-13 are shown in the **Table 2.6**:

Table 2.6: Details of ante-natal care

Year	Total no. of pregnant women	Percentage of women who received three ante natal service	Percentage of women who were given 100 IFA[42] tablets	Percentage of women with anaemia	Percentage of under weight babies
2008-09	13311	100.00	77.39	Not available	14.67
2009-10	15460	91.47	97.69	40.16	13.03
2010-11	15252	92.95	100.00	35.79	16.44
2011-12	15182	92.69	81.78	33.66	14.26
2012-13	15175	94.98	95.14	34.56	15.14

Source: Figures furnished by DMO (H)

The percentage of women with anaemia was in the range of 33.66 *per cent* to 40.16 *per cent*. Percentage of underweight babies also remained almost constant throughout. DMO stated (May 2013) that prevalence of anaemia among tribal population was very high and socio-cultural, dietary and political interventions were needed to tackle this.

Infant and Child Mortality Rate

Infant mortality rate (IMR) is regarded as an important and sensitive indicator of health status of a community. While there was overall reduction in IMR of the State to seven in 2013 from 12 in 2008, IMR of the district increased to 9.67 from 7.72 during the period. IMR of the tribal population was very high and stood at 28.97 in the district in 2008-09.

A survey covering the children in the age group of zero to 72 months in four Grama Panchayaths[43] was conducted (2012-13) by District Administration

[42] Iron Folic Acid
[43] Poothady, Moopainadu, Noolpuzha and Thirunelli Grama Panchayaths

(under UNICEF assistance). Data collected and analysed by survey on 1,855 births in four selected Grama Panchayaths revealed that the infant mortality rate was as high as 41.47 among tribal population. In these circumstances, maintenance of separate database for the tribal population is necessary for the appropriate and timely intervention by the Health department.

In the survey, it was noticed that about 34.1 *per cent* of children in the age group of one to two years did not receive all the primary doses of immunisation by the end of first year of life. It was also found that there was no significant difference in the immunisation status between tribal and non-tribal children. This would indicate the failure of the health system to reach out rather than lack of awareness being the reason for the low rate of immunisation. DMO replied (September 2013) that high percentage of children not receiving all the primary doses of immunisation was due to the frequent occurrence of illness among the children.

The survey also revealed that under-weight, stunting, wasting and low birth rate were high, indicating the need for urgent interventions among tribal children as shown in **Table 2.7**

Table 2.7: Details of survey result

	ST		Others		Total	
	No.	Percentage	No.	Percentage	No.	Overall Percentage
a) Total weighed	1170	--	1513	--	2683	--
• Moderately under-weight	337	28.80	271	17.91	608	22.66
• Severely under-weight	142	12.14	71	4.69	213	7.94
• Moderately wasting	145	12.39	144	9.52	289	10.77
• Severely wasting	77	6.58	63	4.16	140	5.22
• Moderately stunting	285	24.36	299	19.76	584	21.77
• Severely stunting	313	26.75	250	16.52	563	20.98
b) Total weighed	651	--	1204	--	1855	--
• Low birth weight	188	28.88	106	8.80	294	15.84

Source: UNICEF assisted survey findings

2.2.9.4 ICDS programmes executed through Social Justice Department

The Social Justice Department, also through various Integrated Child Development Services (ICDS) projects, provides nutritional food to children in the age group of six months to five years and pregnant mothers to improve the health of the residents in the State.

The ICDS schemes have special relevance in Wayanad district as there are about 1.5 lakh tribal population in the district whose health indicators are comparatively low. As per the records made available by the Project Officer, ICDS, Wayanad, details of under-weight children for the year 2011-12 and 2012-13 are as shown in **Table 2.8.**

Table 2.8: Details of under-weight children

Year	Total weighed			Severely under-weight				Moderately under-weight			
	ST	Others	Total	ST		Others		ST		Others	
				No.	Percentage	No.	Percentage	No.	Percentage	No.	Percentage
2011-12	10126	34937	45063	87	0.86	148	0.42	2939	29.02	7928	22.69
2012-13	9701	32433	42134	85	0.88	132	0.41	3152	32.49	8487	26.17

Source: Records of Project Office, ICDS, Wayanad

It is noticed that percentage of moderately under-weight and severely under-weight children among ST communities was more when compared with other communities. Indicators like stunting[44] and wasting[45] prevalent among children below the age of five were not collected by the Department. Such data constraints would affect evidence based planning and intervention, especially among ST communities.

The Department stated (September 2013) that the progress of under-weight children was being monitored by taking weight every fortnight and they were also referred to medical checkup.

The reply is not acceptable as the number of severely and moderately under-weight children continue to be high. Further the data available with the Social Welfare Department indicating very low percentage of severely (0.88 *per cent*) under-weight children is questionable in the light of the UNICEF assisted survey (**Table 2.7**) in the district which identified 12.14 *per cent* of tribal children as severely under-weight.

2.2.9.5 Prevalence of HIV positive cases

The prevalence rate of HIV positive cases in the district was 0.18 *per cent* as against the State average of 0.12 *per cent*. Total number of HIV positive cases in Wayanad was 116. Out of 73 full blown HIV positive cases requiring Anti Retroviral Treatment (ART) in the district, only 54 patients were given ART. The situation calls for strengthening preventive measures and conducting extensive awareness programmes to prevent HIV.

2.2.9.6 Sickle cell anaemia

Sickle cell anaemia[46] is a lifelong inherited disease found in tribal populations of Wayanad. NRHM screened 85 *per cent* of the tribal population during 2007-08 to 2012-13 and identified 706 patients and 6,992 persons showing traits of this disease. The Health Department has not completed the screening of 100 *per cent* of the tribal population even after four years. Out of identified patients, 312 were in the age group of 18-40 and 262 patients were in the school going age group of 5-17. A survey conducted by NRHM recommended for grant of incentives to identified school going patients to continue their studies and for preferential treatment in granting temporary and contract jobs to those patients in the age group 18-40. The Government and district administration did not initiate steps to accept the recommendations.

The DMO stated (July 2013) that the Health department had screened more than 85 *per cent* of the tribal population and that extra effort would be made to screen the remaining population.

The reply is not satisfactory as no special efforts have been made by the Health Department to extend help to the identified patients to lead a normal life.

[44] Stunting: children not having the standard height for the age
[45] Wasting: children not having the standard weight proportionate to height
[46] An inherited disease characterised by red blood cells that assume a sickle shape making normal life difficult in later stages of sickness.

2.2.10 Education

In terms of literacy and education, the tribal communities were far behind the other communities, as discussed below.

2.2.10.1 Enrolment

The main objective of Sarva Shiksha Abhiyan (SSA) was to ensure 100 *per cent* enrolment and to ensure primary level education for all children in the school going age group by checking the dropout rate. The Manual for Financial Management and Procurement for SSA required a survey of child population of 6-14 age group to be conducted and information to be provided in the perspective plan. No such survey was conducted by the SSA. According to the State Project Director (SPD), SSA, the enrolment of students (standard I to VIII) was 100 *per cent* during 2008-12. Conducting of survey was required for the district which had a large tribal population. As there is no database of child population of 6-14 age groups, the 100 *per cent* achievement in enrolment shown by SSA was not verifiable.

The District Project Officer, SSA, Wayanad stated (September 2013) that survey was not conducted as there was no direction from the SPD.

2.2.10.2 Dropouts

The dropout rate among tribal students was higher than the district average indicating that SSA had not produced the desired results as detailed below:

Table 2.9: Enrolment and dropouts for the standards I to X

Year	Total enrolment in the district	Total enrolment of ST students	Total dropout	Dropout of ST students	Percentage of dropout in the district	Percentage of ST dropout
2008-09	126213	27427	3365	2154	2.67	7.85
2009-10	125767	28738	1547	1011	1.23	3.52
2010-11	124452	29566	1929	1322	1.55	4.47
2011-12	122816	30179	2294	1654	1.87	5.48
2012-13	118960	29560	2054	1727	1.73	5.84

Source: Figures furnished by DDE, Wayanad

It would be seen from above that the dropout rate among the ST students was high as compared to the district average during the years 2008 to 2013.

Though some schemes[47] were introduced by the Education Department and Scheduled Tribes Development Department for providing nutritional support, transportation facilities, etc., to tribal students, there was no significant decline in the dropout rate.

2.2.10.3 Functioning of Multi Grade Learning Centres

Multi Grade Learning Centres[48] (MGLC) is the single strategy devised by the Government to provide primary education to children residing in remote and

[47] Schemes – Gothravelicham (creating learning awareness, providing study materials, etc.) and Free Breakfast Programme by Education Department and Gothrasarathy (providing free transportation facility to school from the colonies) by ST Development Department

[48] Small schools in rural areas where usually a single teacher attends to various grades of students

reserve forest areas. In 2012-13, there were 42 MGLCs with student strength of 867. A test check revealed that out of 76 students enrolled in standard one in 10 centres in 2009-10, 44 did not continue their study beyond third standard during 2012-13. Apparently, the objective of imparting primary education to all marginalised children was not achieved.

The approved Annual Working Plan & Budget (AWP&B) of SSA for the year 2010-11 to 2012-13 contained a provision of ₹ 78.64 lakh[49] for upgradation of 10 MGLCs to new primary schools. The Project was not included in the AWP&B for the year 2013-14, and hence the possibility of project materialising is remote.

The District Project Officer stated (May 2013) that the funds could not be utilised as LSGIs failed to provide the required land.

2.2.10.4 Rashtriya Madhyamik Shiksha Abhiyan

The objective of Rashtriya Madhyamik Shiksha Abhiyan (RMSA), implemented in the State from September 2009, is to provide good quality education accessible and affordable to all young persons in the age group of 14-18 years. The Deputy Directors of Education (DDE) of each district were designated as the District Programme Officers.

Under the RMSA, 12 Lower Primary/Upper Primary schools in Wayanad district were selected (November 2010) for upgradation as High Schools. RMSA released (April 2011) ₹ 2.40 crore as first instalment (₹ 20.00 lakh for each school) to the DDE Wayanad out of the total outlay of ₹ 6.97 crore (₹ 58.12 lakh x 12 schools).

Audit noticed that there was inordinate delay in implementing the scheme. The sanction for upgradation of schools was made in November 2010 and the first instalment was received in April 2011, but the DDE Wayanad issued the administrative sanction only in December 2012. There was no progress towards upgradation of schools till date (December 2013). The delay resulted in denial of infrastructure facilities to the students and escalation in construction cost. Also, there was parking of ₹ 2.40 crore in the bank account of the DDE for more than two years.

2.2.10.5 Schools without sufficient infrastructure facilities

During the period 2008-09 to 2012-13, SSA incurred ₹ 7.23 crore for infrastructure development such as construction of girls' toilets, providing drinking water facilities, compound wall, major repairs, etc. The DDE, Wayanad, had also incurred Rupee one crore for providing urinals, library and furniture, etc., in schools. However, scrutiny of the District Information System for Education (DISE) data maintained by SSA, revealed that basic infrastructure like urinals, electricity, furniture, etc., were insufficient in many schools as given in **Appendix 2.6**.

The District Project Officer, SSA stated (September 2013) that works were taken up on a priority basis depending on the availability of funds from GOI.

[49] Construction of building: ₹ 58 lakh and disbursement of salary to the teachers: ₹ 20.64 lakh

2.2.11 Tribal Development

Deprivation of land, livelihood, houses, poor health status and educational backwardness are the main problems afflicting the tribal population.

2.2.11.1 Land

The tribal communities in Wayanad mainly depend on agriculture for their livelihood. The ST Development Department identified 7,427 landless tribal families in Wayanad district as of June 2013. Government interventions to provide land to the landless families had only a marginal impact as would be observed from the following paragraphs.

State Government sanctioned (January 2010) acquisition of 1,000 acres of land for the resettlement of landless tribals and released ₹ 50 crore (2011-12) to the Tribal Resettlement and Development Mission (TRDM) Wayanad for this purpose. But, the amount is still kept unutilised (September 2013) and no progress was achieved in the acquisition of suitable land for distribution among tribal people.

Kerala Scheduled Tribe (Restriction on Transfer of Land and Restoration of Alienated Lands) Act 1975 as amended vide Act 12 of 1999 provides that tribal people shall be entitled for restoration of land alienated from them by way of allotment from Government. According to the Revenue Department, there was 5900.67 acres of land alienated from tribals in 1,563 cases in the district. However, only 480.76 acres of alternative land were given to 660 families indicating that only 8.14 *per cent* of the alienated land identified was restored by providing alternative land. The DC stated (October 2013) that for giving land in the remaining cases, sanction from Government was required.

2.2.11.2 Housing

A tribal hut at Mukkilpeedika

According to Wayanad District Plan document 2012-17, there are 6,804 home-less tribal families. Most of the huts occupied by the tribal population were of temporary nature without proper walls or roofing. The Department and LSGIs were implementing various housing schemes for the tribal families.

The status of the housing schemes (March 2013) implemented by ST Development Department and other agencies are as shown in **Table 2.10**.

Table 2.10: Status of Housing Schemes for ST

Year	Housing projects by ST Development Department		Housing projects by the LSGIs				Housing projects by TRDM	
			IAY		EMS housing scheme			
	No. of houses		No. of houses		No. of houses		No. of houses	
	Sanctioned	Completed	Sanctioned	Completed	Sanctioned	Completed	Sanctioned	Completed
2008-09	189	155 (82.01)	1489	667 (44.80)	526	595[50] (100)	361	23 (6.37)
2009-10	613	416 (67.86)	1090	576 (52.84)	1660	520 (31.33)		
2010-11	408	140 (34.31)	1094	490 (44.79)	1273	405 (31.81)	197	140 (71.06)
2011-12	426	165 (38.73)	1100	847 (77.00)	838	341 (40.69)		
2012-13	255	17 (6.67)	1031	431 (41.80)	445	155 (34.83)		

Figures in parentheses represent the percentage of completed houses.
Source: Details furnished by the agencies implementing the schemes.

During 2008-09 to 2012-13, 12,995 houses were sanctioned under various schemes. Audit noticed that only 6,083 houses were completed including those houses sanctioned prior to 2008-09 also.

The Department stated (June 2013) that hike in cost of building materials, scarcity of skilled labourers, difficulty in conveyance of materials, etc., were the main constraints in completing the work.

There were also delays in execution of housing projects undertaken directly by TRDM. Only 23 out of 361 houses sanctioned during 2008-09 were completed by TRDM. However, TRDM was able to complete 140 out of 197 houses at Cheengeri Tribal Settlement Colony sanctioned during 2011-12 by giving grant of ₹ 1.25 lakh per beneficiary and the remaining 57 houses were at different stages of completion. Of the remaining 57 houses, 50 houses were at different stages of completion. Construction of three houses was not taken up and four houses were at agreement stage.

The Project Officer stated (June 2013) that this project was implemented directly by the Department and the ST promoters and site managers contributed for the early completion of houses.

2.2.11.3 Infrastructure development by the Tribal Development Department

Three Projects for infrastructural developments were taken up by the Tribal Development Department in the critical sectors of education and health, using the fund earmarked (₹ 12.96 crore) for the improvement of the status of tribes during 1998-2001. It was seen in audit that the construction of tribal maternity ward started in 1999-2000 at the estimated cost of ₹ 30 lakh was completed and started functioning only in November 2013. The other two projects were not completed even as of December 2013 as discussed below.

Model Residential Schools

Model residential schools play an important role to address the overall educational backwardness of tribals, with the objectives to improve pass percentage, dropout rates and bring conducive atmosphere for education.

[50] Includes houses which were under construction as on 1 April 2008

Model Residential School Pookode

The Residential school, Pookode had been functioning since 2000-01 in the cattle shed of defunct Pookode dairy project. Administrative sanction for construction of building was issued in September 1999 at a cost of ₹ 2.50 crore and 20 acres of land was transferred to the ST Development Department in May 2000. Though the work was tendered in January 2004 and awarded, there was no progress in the work. There was delay in tendering the work (56 months), handing over the site to the contractor after executing the agreement (38 months) and in issuing revised administrative sanction (39 months) before entrusting the work to M/s Kerala Industrial and Technical Consultancy Organisation Limited (KITCO) in February 2013 at an estimated cost of ₹ 10.56 crore. Long intervals between each and every stage indicated that the department was not pursuing the matter diligently. As a result, the students had to study in the defunct dairy building for the last 13 years.

It was noticed during site visit that the infrastructure facilities were very poor in the present building and minimum basic facilities were not available in the school. Despite these deficiencies, the school registered a high pass percentage and general excellence in sports.

Boy's hostel, MRS, Noolpuzha

The Noolpuzha Asramam School, was upgraded as High School from 1998-99. Administrative sanction for providing additional infrastructure such as class rooms and separate hostels for girls and boys at an estimated cost of ₹ 2.10 crore was issued in August 2000. The construction of buildings work was entrusted to Kerala Construction Corporation (KCC) and the work commenced in January 2003. Though the construction of school building was completed in five years, only 80 *per cent* of the hostel building was completed even after a lapse of more than 10 years. KCC refused to continue the work after completion of the school building in 2008. The balance work was to be arranged by the Public Works Department and the tendering of the work was in progress (December 2013). Thus, 440 students were accommodated in a 150 capacity hostel leading to overcrowding and other attendant problems.

2.2.12 Water Supply Schemes

According to the guidelines issued under National Drinking Water Mission, works have to be completed within the period of 36 months. One work taken up in 2000 could be completed only in March 2013 at the cost of ₹ 6.29 crore. Out of three works (estimated cost: ₹ 14.28 crore) taken up during 2008-13 under National Rural Drinking Water Programme (NRDWP), only one work (expenditure ₹ 1.05 crore against the estimated cost ₹ 1.45 crore) was completed, leaving the remaining two works in various stages of completion, though ₹ 11.37 crore was incurred on these two projects (December 2013) as shown in **Table 2.11**.

Table 2.11: Details of the incomplete projects of KWA

(₹in crore)

Sl. No.	Name of the project	Year in which taken up	Target year of completion	Revised target date of completion	Original /revised estimate	Total expenditure	Status of work
1	WSS to Krishnagiri, Purakkadi and Ambalavayal Villages	2008	2011	31-03-2014	9.50	8.56	Treatment plants, erection of pumpset and transformer erection works were not completed. Only 50 *per cent* of the distribution works were completed.
2	NRDWP -XV SLSSC 2010 WSS to Krishnagiri, Purakkadi and Ambalavayal Villages	2008	2011	31-12-2013	3.33	2.81	Inter connection works were not completed.

Source: Details collected from KWA

Delay in surrender of land by LSGIs was stated as the reason for non–completion of above-mentioned works. This reinforces the need for enhanced co-ordination between KWA and LSGIs for speedy completion of works to ensure safe drinking water in the district.

2.2.12.1 Sustainability and quality of water resources

The guidelines of NRDWP stipulate initiation of a number of steps to manage ground water in a more scientific manner and upto 20 *per cent* of the funds were to be earmarked and utilised for new projects designed to address water quality and sustainability issues. A two-pronged strategy to regulate indiscriminate withdrawals and to adopt appropriate measures for augmenting its recharge was prescribed. The Kerala Water Authority (KWA), the implementing agency, had not made any attempt in this regard to address the water quality and sustainability issues in the district.

2.2.12.2 Quality control on water supplies

KWA had established Regional /District level Laboratories in the State for water quality monitoring, testing of chemicals, performance studies of water treatment plants etc. KWA has one Quality Control District Laboratory at Kalpetta for water quality testing.

(i) Un-scientific chlorination

Out of 33 water supply schemes in the district, only eight schemes have treatment plants. In water supply schemes without treatment plants, water is collected in the well and is disinfected by chlorination. The analytical reports of the water samples tested in 2011-12 and 2012-13 were as follows:

Table 2.12: Details of analytical report of water samples

Year	No. of Samples analysed	Residual Chlorine level			
		Desired level (0.2 mg / litre)	Not available	Below desired level	Higher than the desired level
2011-12	130	18	81	2	29
2012-13	162	26	80	Nil	56

Source: Analytical report of Quality Control Division, KWA, Wayanad

The desired level standard was maintained only in 44 out of 292 samples analysed, indicating that the methods of chlorination was unscientific. Detection of high turbidity and coliform in repeated sampling[51] indicated that remedial measures were not taken by the KWA.

(ii) Contamination of water with bacteria and other impurities

The test results of water samples conducted during 2011-12 to 2012-13 were as given below:

Table 2.13: Test result of water samples

Year	No of samples tested	Samples with presence of Coliform	Samples with presence of iron above the		Samples with presence of turbidity above the	
			Permissible limit (1mg/litre)	Desirable limit (0.3 mg/litre)	Permissible limit 10 NTU	Desirable limit 5 NTU
2011-12	130	67	17	37	33	53
2012-13	162	53	02	23	42	18

Source: Analytical report of Quality Control Division, KWA, Wayanad

The presence of coliform bacteria and turbidity above the desired limit in more than 50 *per cent* test results in 2011-12 indicated that KWA failed to supply safe drinking water to the population covered under the scheme.

According to the guidelines issued by KWA, at least two samples from a source has to be tested for bacteria and one sample for chemical compounds. There are 6,658 sources in Wayanad district. The samples tested were as follows.

Table 2.14: Details showing achievement in analysis of samples

Year	Total No. of sources	Bacteriological Test			Chemical Test		
		Target	Achievement	*Per cent*	Target	Achievement	*Per cent*
2008-09	6658	13316	Nil	0	6658	Nil	0
2009-10	6658	13316	103	0.77	6658	103	1.55
2010-11	6658	13316	1434	10.77	6658	1434	21.54
2011-12	6658	13316	1255	9.42	6658	1255	18.85
2012-13	6658	13316	2428	18.23	6658	2428	36.47

Source: Analytical report of Quality Control Division, KWA, Wayanad

As evident from the table above, there was heavy shortfall in achievement in analysis of samples from 2008-09 to 2012-13.

In view of the fact that there were reports of outbreak of Cholera and other water-borne diseases, resulting even in death of affected people, as discussed in paragraph 2.2.13.1, the district administration should devote greater attention to strengthen the quality control measures for safe drinking water. KWA stated (September 2013) that sufficient treatment plants were not available and supply of good quality water could not be ensured merely by chlorination.

The drinking water quality monitoring and quality surveillance are two distinct but closely related activities. There should be close collaboration between drinking water supply agencies and health authorities.

[51] Community Water Supply Scheme to Noolpuzha and Sulthan Bathery, Accelerated Rural Water Supply Scheme (ARWSS) Padinjarathara, ARWSS Nalloornadu, Porunnannur and Vemom villages

2.2.13 Sanitation Programme

The State Suchitwa Mission is the nodal agency in the State for the implementation of the Total Sanitation Campaign. As on 30 April 2013, the Mission utilised ₹ 9.83 crore, out of ₹ 10.37 crore received[52]. The Mission had a target of 53136 household latrines to be constructed (BPL: 50,655 and APL 2,481) during 2003-04 to 2013-14. As per the progress report, the Mission had achieved 100 *per cent* of target by 2010-11. However, census 2011 data reveals that out of 1,78,686 rural households in the district, 14,917 households did not have latrine facilities.

The NRHM had conducted a survey (during 2012-13) in 100 (out of 2,500) tribal colonies in Wayanad district with high risk of cholera and found that 1,793 latrines and 172 toilet complexes need to be provided in the colonies. Out of 874 Anganwadis (AW) in the district, 828 AWs are without baby friendly toilets and 257 AWs are without toilets. However, the Mission have proposed for only 211 AW toilets in the Revised Project Implementation Plan, 2013.

2.2.13.1 Prevalence of Cholera

During 2011-13, 231 suspected cases of cholera were reported. Out of these, 33 cases were confirmed and 17 deaths were also reported. The medical team visiting the area reported the absence of good quality drinking water and sanitation facilities were the main reasons for spreading of the disease. Cholera can spread as an epidemic if sanitation breaks down in distress areas. No long term measures were adopted to tackle the issue. The district administration must initiate steps to provide clean drinking water and better sanitation facilities to prevent outbreak of the disease.

No solid or liquid waste treatment plants were installed in the District. All the LSGIs in the district were following traditional method of waste disposal i.e., dumping in open area, with attendant consequences of pollution and health hazard. These issues need to be addressed immediately by the Mission.

2.2.13.2 Contamination of Water due to untreated Hospital Waste

There was no system for treatment of wastewater in the District Hospital. The wastewater was discharged to Mananthavady river which is the source of water supply of KWA. In September 2007, the District Panchayath (DP) proposed to set up a treatment plant. The Pollution Control Board agreed (March 2010) for the proposal of the treatment plant and stated that discharging untreated wastewater posed a threat to public health as the effluent directly reaches the Mananthavady river. A rough cost estimate for ₹ 75 lakh for construction of treatment plant was prepared in March 2010. Government approved (March 2012) the proposal of DP for entrusting the work to M/s Hindustan Pre Fab Limited. But the work of the plant has not been started till date (June 2013). The DP attributed (July 2013) non-receipt of technical sanction from Government for the delay.

[52] State Government - ₹ 219.77 lakh, Central Government - ₹ 656.39 lakh, Beneficiary - ₹ 121.64 lakh, Interest ₹ 38.8 lakh and miscellaneous - ₹ 0.02 lakh

Economic Sector

2.2.14 Agriculture

2.2.14.1 Disbursement of loans by the co-operative Sector

Agricultural credit to the farmers by cooperative sector decreased from ₹ 117.08 crore in 2008-09 to ₹ 40.66 crore in 2012-13 and agricultural credit as a percentage of total loan disbursed decreased from 31.6 to 3.85 *per cent* as indicated below.

Table 2.15: Details of disbursement of agricultural loan

(₹ in lakh)

Sl. No.	Particulars	2008-09	2009-10	2010-11	2011-12	2012-13
1.	Total amount of Loan disbursed	369.45	496.50	694.91	854.55	1056.47
2.	Total loan for agricultural purpose	117.08	65.42	68.93	66.35	40.66
3.	Percentage of agricultural loan	31.69	13.18	9.92	7.76	3.85

Source: Joint Registrar of Co-operative Societies (Gl), Wayanad

The trends in the disbursement of agricultural credit over the years indicate that the role of cooperative banks in agricultural sector is gradually decreasing.

2.2.14.2 Sustainable Development of Rice Based Farming System

The scheme on Sustainable Development of Rice Based Farming System is intended to sustain rice cultivation and to augment the average productivity to more than three tonne per hectare. During 2009-2013, expenditure of ₹ 4.56 crore was incurred under the programme. The result however, was not encouraging as total cropped area under paddy decreased from 12,746 hectare in 2008-09 to 8,995 hectare in 2011-12[53] and total production also decreased from 33,861 MT in 2008-09 to 23,526 MT in 2011-12. The productivity target of three tonne per hectare was not achieved in any of the seasons during these years[54]. There was no monitoring and evaluation of the scheme, as envisaged in the guidelines. Periodical monitoring is required to get a better result.

The Principal Agricultural Officer stated that better schemes and irrigation facilities were required to make the paddy cultivation more attractive.

2.2.15 Forest

The forest area in the district represents 8.02 per cent of the total forest area in the State. The district also accounts for 19.09 per cent of the Ecologically Fragile Land in the State.

[53] Source: Economic Review. Figures of 2012-13 were not available
[54] 2,657 kg/ha in 2008-09, 2,552 kg/ha in 2009-10, 2,525 kg/ha in 2010-11 & 2,615 kg/ha in 2011-12

2.2.15.1 Forest land used as a dumping yard

Waste disposed in Attamala Forest Region

The forest of Attamala region was being used as a dumping yard of the waste/garbage including plastic wastes collected from the Meppadi Grama Panchayath. According to the Forest Range Officer, Meppadi the piling up of waste in the forest had adverse impacts on the environment, fauna and flora, contamination of soil and rivulets of the forest, etc. Despite intervention by the Forest Department and DC from October 2010 onwards, the Panchayath continued the illegal act of dumping the waste in the forest area till June 2013. The piled up waste in the area over the years has not been removed and is an environmental hazard.

2.2.15.2 Demarcation of forest land

As per Section 6 of Kerala Private Forest (Vesting & Assignment Act) 1971 and Rule 8 of Kerala Forest (Vesting & Management of Ecologically Fragile Land) Rules 2007, all lands notified shall be demarcated by the custodian by erecting permanent cairns along the boundaries within two years from publication of the Rules.

In South Wayanad Forest Division, the permanent boundary consolidation of forest area was done only for 494.14 km, leaving another 260.12 km to be consolidated. In Wild Life Division, Sulthan Batheri, out of 179.40 kilometer of boundary of Reserve Forest to be demarcated in four ranges (Muthanga, Sultan Bathery, Kurichiat, Tholpatty) with permanent cairns, 93.50 kilometer (52.11 *per cent*) was not demarcated yet. Lack of funds, shortage of surveyors and hilly terrains were stated as reasons for short fall.

2.2.15.3 Human-Animal conflict

In Wayanad, human-animal conflict is seen across the district in a variety of forms such as crop raiding by ungulates and wild pigs, depredation by elephants and human deaths due to elephant attack, killing of livestock by wild cats, etc. For mitigating this menace, the Forest Department was adopting practices like elephant proof trenches dug in possible terrains, solar power fencing, boundary wall construction, appointing watchers, installing audio aids to produce sounds of ferocious animals, etc. Audit noted that during 2008-12, an amount of ₹ 2.44 crore was paid as ex-gratia compensation by the Forest Department in the district. Unless effective action to limit the shrinkage of wildlife habitat is taken, providing ex-gratia compensation would continue which is not a permanent solution to the problem.

The District Forest Officer stated (July 2013) that creation of animal corridors and acquisition of private land are the solutions and Government level intervention is required to protect the shrinking habitats.

2.2.16 Conclusion

In the absence of preparation of IDDP, serious efforts towards bridging the gaps, evaluating inequalities in human development achievements across sub-

regions and social groups would not be possible. There was no system in place at the district level to have a consolidated position of the receipt and utilisation of funds under various schemes implemented in the district. Adequate infrastructure and human resources were not available in health sector. Majority of tribal people in Wayanad were not brought to the mainstream of society and remained marginalised, with lower indices in health and education. Separate data on tribal population was not compiled for a proper assessment on the magnitude of the problems existing especially in the areas of nutrition, Infant Mortality Rate, Maternal Mortality Ratio, etc. There was undue delay in allotment of land and construction of houses. The quality of water supplied was not at the desired level. Agricultural credit from the cooperative banks was gradually decreasing and schemes to augment rice production were not depicting positive results. Issues like conservation of forest, recurring incidences of human-animal conflicts were not addressed on a long term perspective

2.2.17 Recommendation

- The Government should evolve a continuous mechanism of sharing/exchanging of vital data pertaining to various departments with the LSGIs and other implementing agencies for prioritisation of the plans.
- There should be a system in place at the district level to have a consolidated position of flow of funds emanating from various sources including GOI and State Government and their utilisation for an integrated approach towards the various developmental activities in the district.
- The health sector in the district should be strengthened by providing adequate human resources and infrastructure in terms of the established norms. Adequate monitoring for timely completion of infrastructure projects is required.
- The Government should reinforce the system of collection of vital data related to health and educational indicators of tribal population, to be used as critical inputs in planning and conceptualising the schemes meant for the welfare of tribals.
- As water borne diseases are increasingly reported in the district, KWA should take immediate steps to provide sufficient treatment plants and strengthen water quality control measures to ensure availability of safe drinking water.

The above issues were referred to Government in November 2013; their reply has not been received (January 2014).

SPORTS AND YOUTH AFFAIRS DEPARTMENT

2.3 Activities/Schemes for the promotion of Sports

Highlights

The Government of Kerala passed the Kerala Sports Act 2000 with the principle of 'Sports for All'. The State's sports objectives include development of sports activities at grassroot level, and thereby ensuring mass participation in national and international level sports events for sporting excellence. The Performance Audit revealed deficiencies in planning, utilisation of funds, completion of projects on time, implementation of programmes, etc.

Long-term plan was not prepared by the Department as comprehensive database on sports infrastructure in the State was not available.

(Paragraph 2.3.6)

Instances of under-utilisation of grants for the development of sports, abnormal delay in execution of projects and under-utilisation of infrastructure were noticed.

(Paragraphs 2.3.7.2, 2.3.8. and 2.3.10.2)

The Sports Development Fund envisaged for the creation and upgradation of sports facilities in the State, to arrange extra funds for training abroad and engagement of dedicated specialist coaches for meritorious sports persons was not created, despite a provision of ₹ 1.25 crore made in the State budget during 2010-12.

(Paragraphs 2.3.7.4)

The Panchayath Yuva Krida Aur Khel Abhiyan, a Centrally Sponsored Scheme did not achieve the desired results as the targeted number of Grama Panchayaths/Block Panchayaths were not covered.

(Paragraph 2.3.9.1)

Health related physical fitness test conducted at school level revealed that only 19.61 *per cent* of the school going children in the State had the minimum recommended standards. But, no effective remedial measures were taken by the government for improving the physical fitness of school going children.

(Paragraph 2.3.9.2)

The progress achieved in the development of infrastructure for staging 35th National Games in the State by the National Games Secretariat was poor.

(Paragraph 2.3.11.2)

2.3.1 Introduction

The Government of Kerala (Government) passed the Kerala Sports Act, 2000 with the concept of 'Sports for All'. It envisaged the promotion of sports and games to augment athletic efficiency in the State and the constitution of Sports

Councils at the State, Districts and local levels for securing greater measure of participation of the people in sports and games. Rules were framed in July 2008 for governing the various activities of the Sports Councils. The sports objectives of the State include the development of sports activities at grassroot level and ensuring mass participation in sports and games in national and international sports events for sporting excellence. The State is also on the way for adopting and implementing a sports policy to make Kerala a vibrant, leading-edge state in the sports arena, duly recognising the athlete as the central character of all sporting activities.

Sports scenario in Kerala

Kerala is in the forefront in athletics with good contribution in Olympic Games, Commonwealth Games and Asian Games. In Beijing Olympics (2008) and London Olympics (2012), around 25 *per cent* (three out of 16 and four out of 14 respectively) of athletes who represented the country were from Kerala. In the XIX Commonwealth Games, New Delhi 2010, Kerala athletes won five medals (one Gold, one Silver and three Bronze) for the country. In XVI Asian Games 2010 held at Guangzhou, China, Kerala athletes also won five medals (three Gold, one Silver and one Bronze) for the country. Kerala is also the national champion in Athletics (senior level) for the last four years (2009-12).

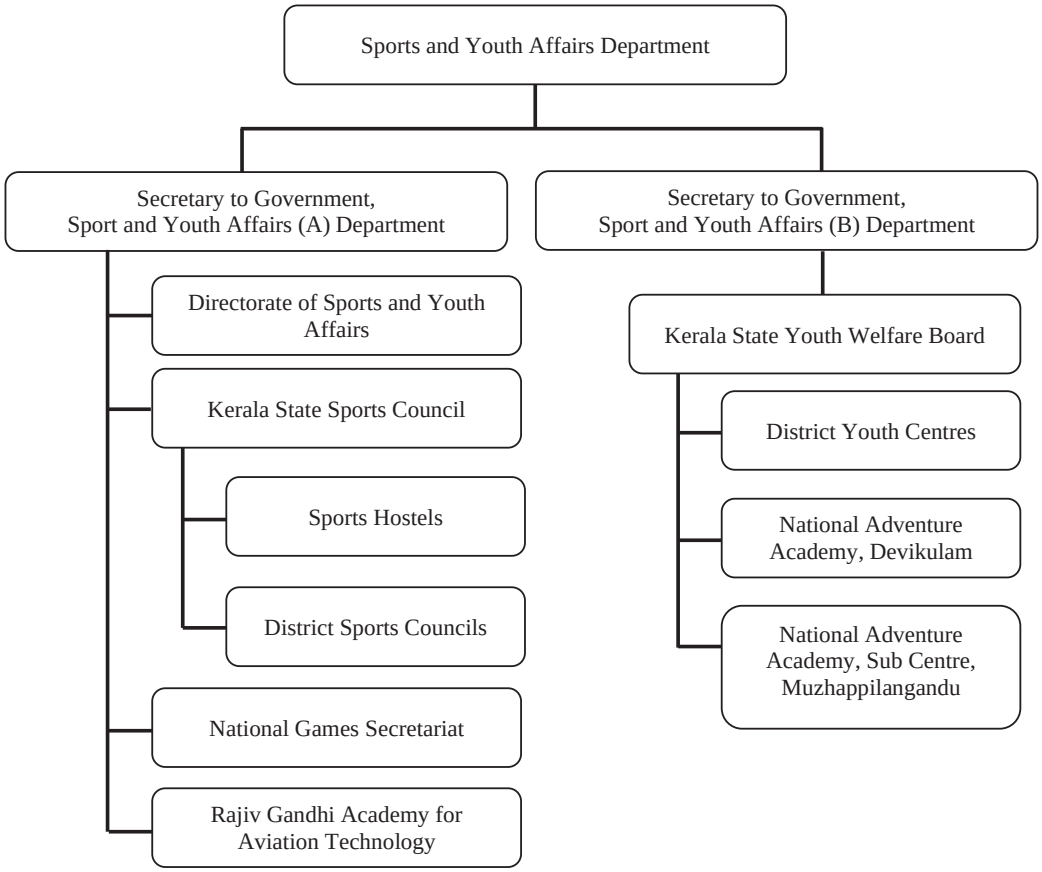
In Volleyball, Kerala men's team were the national champions for the last two years and Kerala women's team were runners up for the last four years. The overall medal positions of the State in the last two National Games were 75 and 87 respectively and the all-India position of the State in the National Games was fourth and seventh respectively. Similarly, in National School Games, the position of the State was between five and seven during 2009-13.

Kerala State Sports Council (KSSC) implements various sports promotion activities in Kerala through 32 affiliated organisations under it.

2.3.2 Organisational set-up

The Department of Sports and Youths Affairs (Department), Government of Kerala is primarily responsible for enunciating the broad vision and policies for sports, the implementation of plans and programmes related to sports and youth affairs are carried out through the Director, Sports & Youth Affairs (DS&YA), KSSC an autonomous body and through the decentralised set up of local self-governments. A society under the title 'National Games Secretariat (NGS)' was formed (November 2008) by the Government for the successful and timely conduct of the 35th National Games.

Detailed organisational set-up of the Department is given below:



2.3.3 Audit objectives

The objectives of the performance audit were to assess whether:

- the annual plan formulated by the department was effective in delivering its mandate;
- allotment of funds was adequate and its utilisation was economic and efficient in effectively implementing schemes/developing infrastructure facilities for sports in the State;
- the sports institutions like Sports Hostels, Archery Academy, High Altitude Training Centre were functioning effectively;
- the monitoring system to watch the implementation of various programmes/ schemes of the departments was adequate.

2.3.4 Audit criteria

Performance of the department was benchmarked against the following:

- The Kerala Sports Act, 2000 and Kerala Sports Rules, 2008 for the promotion of sports in the State;
- The Government guidelines/directions for promoting excellence in sports;

- Orders, sanctions and guidelines issued by the Government for the creation and maintenance of infrastructure and conduct of sports related activities;
- Guidelines issued by the Government from time to time for empanelment of coaches and selection of student beneficiaries.

2.3.5 Scope and methodology of Audit

A Performance Audit on Activities/Schemes for the promotion of sports was conducted between April 2013 and July 2013 covering the period 2008-13, by test check of records of the Department, DS&YA, KSSC and NGS. Further, records of District Sports Councils (DSCs), five Centralised Sports Hostels (CSHs) and 84 Grama/Block Panchayaths (GPs/BPs) in the five[55] (out of 14) selected districts were also test-checked. The districts for audit were selected by adopting sampling method of Probability Proportional to Size Without Replacement (PPSWOR).

Audit methodology included scrutiny of records and information and site inspections along with implementing officials for the collection of data and audit evidence. An entry conference was held (April 2013) with the Secretaries of Sports and Youth Affairs and audit methodology of the performance audit was informed. The audit findings were discussed with the Secretary to Government (Sports and Youth Affairs) in the exit conference (October 2013) and their views have been incorporated in the Report at appropriate places.

Audit findings

The audit findings are discussed as under.

2.3.6 Planning

The functions of the department involves creation of infrastructure facilities, conduct of sports activities, selection of coaches and sport beneficiaries through agencies like DS&YA, KSSC etc., for improving excellence in sports. They also provide hostel facilities and other sports related training/coaching through State/National/International coaches.

2.3.6.1 Assessment of requirement and prioritisation of works

The Department prepared Annual Plans related to Sports and Youth Affairs with reference to Five-Year Plans of the State. Other than the Annual Plans, the Department did not have any long term plan for the development of sports. Funds for the development of sports and youth affairs were provided by the Government based on annual plan proposals of the DS&YA and KSSC.

Audit noticed that 11 projects/schemes like construction of stadia, swimming pool, development of play fields, sports academies, etc., which were repeatedly included in the annual plans of KSSC (**Appendix 2.7**) had not commenced, as of March 2013. The inclusion of such projects in plan

[55] Alappuzha, Kottayam, Kozhikode, Malappuram and Thiruvananthapuram

proposals reflects lack of proper planning and non-prioritisation of works on need basis.

The KSSC stated (June 2013) that these projects were not under active consideration for implementation. Government accepted the view of Audit and replied (November 2013) that steps would be taken to prepare a need based long term plan of viable projects after examining the feasibility of the schemes in all respects.

2.3.6.2 Absence of sports infrastructure data

Comprehensive data on availability of sports persons and sports infrastructure[56] in the State including sports facilities in schools, colleges and Local Self-Government Institutions (LSGIs) is vital in planning the creation of various sports infrastructure facilities and implementation of sports development programmes. At present, neither the KSSC nor the DS&YA have such details. Even though Government sanctioned ₹ 35 lakh to DS&YA in 2010 for generation of Geo-Spatial[57] Information on available sports facilities in the State, Audit noticed that the work was entrusted to Kerala State Remote Sensing and Environment Centre only in December 2012 by the DS&YA and work was scheduled to be completed by December 2014.

Government replied (November 2013) that database of sports persons would be created by collecting data from the Education Department and Universities.

2.3.7 Financial management

2.3.7.1 Budget allocation and expenditure

The Budget provision and funds released for the development of sports by Government to DS&YA were as under:

Table 2.16: Details of budget provision and expenditure of DS&YA

(₹ in crore)

Year	Plan			Non-Plan	
	DS&YA			DS&YA	
	Provision (Net) *	Expenditure	Expenditure during the month of March	Provision (Net)	Expenditure
2008-09	8.69	8.68	8.32	0.45	0.48
2009-10	86.47	86.41	84.98	0.46	0.51
2010-11	24.97	14.69	7.48	0.62	0.51
2011-12	32.25	8.08	5.19	0.82	0.92
2012-13	58.45	57.85	22.12	0.80	0.92
Total	**210.83**	**175.71**	**128.09**	**3.15**	**3.34**

Source: Appropriation Accounts of Government of Kerala

* including provision for NGS

An overall analysis of budget allocation and expenditure revealed the following.

[56] Stadium, playground etc

[57] Geo-spatial information is the information that identifies the geographical location and characteristics of natural or constructed feature and boundaries of the earth

2.3.7.2 Lapse/Under-utilisation of funds

According to paragraph 91 of Kerala Budget Manual, spending departments are required to surrender grants/appropriations or portions thereof as and when savings are anticipated. The departments should not wait till the last day of financial year for surrender of grants/appropriations. Contrary to the above, Audit noticed that the budget provisions under certain heads of account operated by the DS&YA were kept unutilised until the last day of the financial year and were allowed to lapse at the close of the financial year.

Huge savings under various heads indicate that the budget provisions were made without proper assessment of requirement. Against the budget provision of ₹ 210.83 crore to DS&YA under Plan head during 2008-13 for the development of sports in the State, only ₹ 175.71 crore was drawn and the balance amount of ₹ 35.12 crore lapsed as it was not surrendered by the department in time.

2.3.7.3 Rush of expenditure

According to paragraph 91(2) of the Kerala Budget Manual, the flow of expenditure should be regulated in such a manner that there is no rush of expenditure at the end of the financial year. It was noticed that the same was not adhered to by the DS&YA and the expenditure during the month of March was 95.85 *per cent* of the net provision during 2008-09 and 38.24 *per cent* during 2012-13.

2.3.7.4 State Sports Development Fund

The Kerala State Sports Commission, appointed by the Government in June 2008, recommended (June 2009) the setting up of State Sports Development Fund for the creation and up-gradation of sports facilities across the State in a phased manner, to meet insurance coverage of students and to arrange extra funds for training abroad and engagement of specialised coaches for meritorious sports persons.

Based on the recommendations, Government made a budgetary allocation of ₹ 1.25 crore to DS&YA for the establishment of State Sports Development Fund during 2010-12. However, Audit noticed that the budgetary allotment was not utilised and State Sports Development Fund was not established (December 2013) due to reasons like non-finalisation of draft trust deed by the DS&YA, delay in constitution of the trustees by Government and registration of trust deed. Thus, the intended benefits out of the State Sports Development Fund were not derived even after sufficient budget allotment was made to the Department.

Government stated (November 2013) that the Fund would be created once the orders of tax exemption for registration of the Trust is received from the Taxes Department.

2.3.8 Sports Infrastructure

According to the Sports Act, 2000, KSSC was responsible for the development of sports infrastructure in the State. Certain projects would be carried out by LSGIs/DSCs with partial assistance of KSSC/DS&YA and the remaining amount needed for the project would be raised by the LSGIs/DSCs.

Audit noticed that 10 sports infrastructure projects costing ₹ 78.30 crore, initiated during 2000-2013, were still under construction as detailed in **Appendix 2.8**. Out of the 10 works, three works directly executed by KSSC were not completed (December 2013) despite sufficient funds being available due to reasons like delay in re-arrangement of works, revision of estimates, etc. Till December 2013 KSSC spent an amount of ₹ 18.40 crore against the project estimate of ₹ 14.49 crore resulting in a cost escalation of ₹ 3.91 crore and time overrun of more than 13 years in the construction of Aquatic Complex at Pirappancode started in the year 2000.

In respect of the remaining seven works, financial assistance (₹ 25.59 crore) were provided to LSGIs/DSCs for the creation of sports infrastructure facilities. The Government/KSSC while releasing financial assistance to the implementing agencies of these works stated that the assistance would be limited to the extent of funds sanctioned and balance was to be raised from sources like MP/MLA fund or from their own contribution. At the time of releasing the assistance, KSSC/DS&YA did not assess the capability of the implementing agencies to raise the additional funds required for completion of the project. In all the cases the implementing agencies failed to raise the required funds and repeatedly requested DS&YA for additional funds. It was partially entertained in certain cases, but it was not adequate to complete the works. Thus the seven works were halted due to lack of funds and an amount of ₹ 25.59 crore released on these works was lying blocked up.

Government accepted the audit observations and stated that the department had only limited provision of funds and the balance amount required for such projects had to be mobilised from external sources like LSGIs, MLA/MP funds, etc.

Thus the KSSC/DS&YA failed in completion of the various projects due to poor financial and project management. This resulted in non-achievement of the intended benefits besides time and cost overruns.

2.3.9 Implementation of Sports Development schemes

2.3.9.1 Panchayath Yuva Krida Aur Khel Abhiyan (PYKKA)

To promote the practice of active sports among rural youth through creation of adequate sports infrastructure and conduct of annual competitions, the KSSC implements PYKKA**,** a Centrally Sponsored Scheme, since 2008 in the State. The scheme was to be implemented in 400 GPs and 60 BPs during 2008-12. The scheme was extended by one year and during 2008-13. KSSC received ₹ 24.68 crore under the scheme from GOI and incurred an expenditure of ₹ 17 crore (March 2013). Audit scrutiny of the implementation of the scheme revealed the following:

- An amount of ₹ 9.82 crore was distributed to only 199 GPs and 28 BPs and the scheme was only partially implemented in these GPs and BPs. Most of the GPs covered under the scheme did not turn up for second instalment of assistance and did not furnish statement of expenditure/Utilisation Certificates (UCs) to KSSC. Records produced to Audit indicated that as against the release of ₹ 9.82 crore, the beneficiary Panchayaths had furnished UCs only for ₹ 1.44 crore.

- Out of 84 Panchayaths test-checked, only 47 Panchayaths utilised 'One Time Seed Capital Grant' for the creation of play fields utilising ₹ 1.54 crore against the release of ₹ 3.85 crore. It could be seen that an amount of ₹ 2.31 crore was not utilised for the creation of play fields. But an amount of ₹ 1.64 crore released for annual rural competitions was fully utilised without the creation of play fields intended.

Thus the scheme, conceived in 2008, to promote the practice of active sports among rural youth through creation of adequate sports infrastructure had not made the desired progress in creation of infrastructure and annual competitions were conducted without adequate infrastructure in the State.

Government accepted the audit observations and the State Level Executive Committee headed by the Chief Secretary, decided (October 2013) to constitute District Level Committees under the chairmanship of District Collectors to sort out the issues for successful implementation of scheme.

2.3.9.2 Total Physical Fitness Programme (TPFP)

Government constituted a committee in November 2007 for the integration of Health and Physical Education in the Educational Curriculum for the schools in Kerala. Government sanctioned (January 2008) 'Total Physical Fitness Programme' (TPFP) to assess the physical fitness status of school children in the State. Health related physical tests conducted at school level indicated that only 19.61 *per cent* of students had the minimum recommended health related physical standards. The KSSC, in-charge of the implementation of the programme, spent ₹ 1.41 crore during 2008-13 for conducting the tests and uploading the data. Government approved the inclusion of physical education as a part of curriculum in schools to improve the physical fitness of students and directed the State Council for Education Research and Training (SCERT) to recommend the syllabus.

The SCERT did not finalise the curriculum even after a lapse of four years and thus the scheme envisaged to improve the physical fitness of school children was not achieved.

Government stated that the inclusion of physical education in curriculum requires creation of additional posts and infusion of more funds. It was also stated that a new scheme 'Play for Health' was sanctioned (October 2013) to achieve a total physically fit populace in the State and to convert the schools as sporting hubs.

The reply of the Government is not acceptable as the Government should have considered the financial implication of the scheme before approving it. Moreover, the project mentioned is only a pilot project to be implemented in 25 schools. The justification and rationale behind the scheme is also not clear.

2.3.10 Sports institutions

2.3.10.1 Sports Hostels

The KSSC directly runs 23 centralised sports hostels in the State to nurture talented sports persons to international level and for giving specialised training in various disciplines. Besides, 13 school hostels and 33 college hostels in the State admit students sponsored by KSSC. During 2008-13, KSSC spent

₹ 20.32 crore towards expenses for the students admitted to the centralised sports hostels, including the schools and college hostels.

On an average, 715 students were trained at CSHs and 693 students at School/College Hostels annually during the period 2008-13. There were 47 coaches in CSHs and 55 coaches in school/college hostels to train the above students. Students from 20 out of 23 CSHs and 21 out of 33 college hostels won medals in National or State Championships during the last three years.

Scrutiny of records revealed that 14 out of 23 CSHs are accommodated in rented buildings. A test check of two hostels owned by KSSC and three in rented buildings showed that these[58] hostels had inadequate number of beds, lack of cooking facilities, lack of ventilation, overcrowding in rooms, etc. In one of the rented hostels test checked, it was seen that 19 students were accommodated in 14 beds housed in two bed rooms each of capacity 192 square feet. KSSC did not have any criteria for the facilities to be provided in sports hostels.

Government stated (November 2013) that functioning of Sports Hostels in rented buildings would be continued for some more years due to paucity of funds and they are also planning to construct sports hostels by using dismantled pre-fab housing units of National Games Village on completion of the National Games.

The reason for non-creation of adequate infrastructure due to paucity of funds is not acceptable as there is lack of prioritization of projects under taken by the Department and the available resources are thinly spread in various schemes resulting in non-completion of many projects as already mentioned under paragraph 2.3.8.

2.3.10.2 High Altitude Training Centre, Munnar (HATC)

The High Altitude Training Centre (HATC) started functioning in July 2009 and regular coaching in football was started from the year 2009-10. The intake of students in the Training Centre were as detailed below.

Table 2.17: Details of intake of students at HATC, Munnar

Particulars	Year			
	2009-10	2010-11	2011-12	2012-13
No. of students admitted	19	31	24	7
No. of students at the end of the year	14	22	14	7
No. of students dropped out	5	9	10	Nil

Source: Figures provided by KSSC

Audit noticed that number of students admitted to the centre was 31 in 2010-11 and decreased to seven in 2012-13. Thus, the Academy established at a cost of ₹ 5.45 crore, failed to deliver the intended objectives and the sports infrastructure facilities created remained largely under-utilised.

The Department stated that the high rate of dropout of students was attributed to the extreme cold climate and non-existence of educational institutions like

[58] CSH Kakkatil, CSH Kottayam, CSH Kozhikode, CSH Niramaruthur and CSH Thiruvanathapuram

college/higher secondary schools in the vicinity. The Secretary, KSSC, accepted the findings of Audit and stated that the possibility of utilising the Centre for specialised trainings of short durations would be considered.

The reasons given by the Department for higher dropout rates are not acceptable as these conditions were known at the time of setting up of the centre.

2.3.10.3 Archery Academy in Wayanad

Government sanctioned (June 2012) the establishment of Archery Academy in Wayanad District with a view to provide proper training and modern equipment to the highly talented Archers in the State at an estimated cost of ₹ 50 lakh. The NGS was entrusted with the preparation of plan, estimates and execution of work. Audit noticed that, the NGS has not started (October 2013) the construction work. Records produced to Audit revealed that the land for setting up the Archery Academy was transferred by the Local Self-Government Department (LSGD) in January 2010 with the condition that the land was to be utilised within three years, failing which the right to the land would automatically vest with the local Panchayath. The delay in according administrative sanction by Government was due to the failure of the DS&YA in taking up the project in right earnest due to non-availability of suitable person to formulate a detailed project report, lack of resources, adequate field staff, etc., which resulted in the non-execution of the work and non-achievement of the objective to nurture talented archers.

2.3.11 35th National Games – Kerala

The 35th National Games was allotted (November 2008) to Kerala by the Indian Olympic Association (IOA). For planning and the successful staging of the 35th National Games, the Government of Kerala established (November 2008) National Games Secretariat[59] (NGS) and constituted six[60] committees. The games were tentatively planned to be held in February 2014.

2.3.11.1 Funding

The estimated cost of National Games was ₹ 611.33 crore and the GOI assured an assistance of ₹ 121 crore. During 2008-13, as against the total release of ₹ 212.44 crore (State Government: ₹ 149.66 crore, GOI: ₹ 62.78 crore) NGS spent ₹ 130.83 crore for the Games.

2.3.11.2 Infrastructure/Venue Development

The National Games Secretariat (NGS) planned to execute 25 works as detailed in **Appendix 2.9**, including construction of 10 new stadia (excluding one Greenfield stadium at Thiruvananthapuram on Design Build Operate Transfer mode), renovation of 14 existing sports infrastructure at various places in the State and the construction of National Games Village at Thiruvananthapuram. The total estimated cost of these 25 works, excluding

[59] A registered society established under the Travancore Cochin Literary, Scientific and Charitable Societies Registration Act 1956

[60] National Games Organising Committee (NGOC), Co-ordination Committee, Empowered Committee, Technical Committee, Technical Committee for Sports and Purchase Committee

the Greenfield Stadium, was ₹ 274.92 crore. NGS appointed (May 2009) M/s CES-SPAJV as Project Management Consultant (PMC) for construction/renovation of existing sports infrastructure for the conduct of 35th National Games. The PMC was entrusted with the consultancy and supervisory works relating to the project from the stage of initiation to completion. The project design and preparation of drawings etc., were also the duties and responsibilities of PMC. PMC failed to deliver the services as desired and the consultancy contracted with M/s CES-SPAJV was terminated (March 2012) and new consultants Bharat Sanchar Nigam Limited (BSNL) and Kerala Industrial and Technical Consultancy Organisation Limited (KITCO) were appointed (January 2012).

Audit noticed that only nine out of 25 works planned were completed or were nearing completion (December 2013). For the remaining 16 works, the percentage of physical progress of seven works ranged between zero to 40. It was also noted that non-identification of site, termination and re-arrangement of contracts, change in design and lack of co-ordination by PMC, etc., were the reasons for the slow progress of the works.

Audit findings on the execution of certain major works by the NGS were as under.

Trap and Skeet facility at Mookunnimala, Thiruvananthapuram

For the development of Trap and Skeet venue at Army Shooting Range Mookunnimala, Thiruvananthapuram, the NGS obtained (April 2012) permission of Army authorities to conduct the survey for the preparation of detailed Map for construction of Trap and Skeet facility. The NGS awarded (January 2013) the work of construction of trap and skeet facility to a firm for ₹ 1.46 crore, which included construction of towers and bunkers before obtaining the permission of Army. As the Army authorities objected to the construction of towers and bunkers, the work has not commenced as of December 2013. Though NGS identified another site, it was yet to obtain the approval of the Ministry of Defence. Thus, the delay in finalisation of site may have the risk of trap and skeet event being excluded from the Games.

Government replied (November 2013) that the Chief Minister had taken up the matter (September 2013) with the Ministry of Defence for obtaining formal sanction for the commencement of the work.

The reply is not acceptable as there was no justification on the part of NGS in awarding the work even when the army headquarters had informed (April 2012) that the permission given was only for survey and not for construction activities. No progress has been achieved in this context till date (December 2013).

Construction of Shooting Range, Vattiyoorkavu, Thiruvananthapuram

The work for the construction of a shooting range at Government Polytechnic Vattiyoorkavu, Thiruvananthapuram was awarded (September 2010) to a contractor for ₹ 17.10 crore with period of completion of ten months. The proposed work included construction of two buildings with 10 m, 25 m and 50 m shooting ranges. The NGS terminated the contract (July 2012) citing the slow progress of work. However, the cancellation made was revoked (January 2013) and extension of time was given to the contractor to complete the work

by October 2013. Meanwhile, in order to complete the work on time, NGS decided (May 2013) to change the scope of work and limited the construction to a single building to accommodate all the shooting ranges, instead of two separate buildings. As of December 2013, the NGS has completed 60 *per cent* of the work based on the revised plan and incurred an expenditure of ₹ 4.82 crore.

Audit observed that there was failure on the part of NGS to get the work completed by the contractor within the stipulated time and reduced the scope of work resulting in compromising the envisaged infrastructure.

Construction of New Multipurpose Indoor Stadium at Kannur

The construction of a New Multi-purpose Indoor Stadium at Kannur was awarded (May 2010) to a contractor for ₹ 26.37 crore. But the work was not executed through this contractor as the NGS modified the drawings based on the report of Design Research Investigation and Quality control Board (DRIQ Board) of Public Works Department on the structural safety of the design initially approved by NGS. Though the work was again awarded to another contractor for ₹ 41.16 crore based on the revised drawings, the contract was terminated (September 2012) due to slow progress of work without risk and cost as the scope of work was required to be changed.

Considering the availability of fund, the NGS again modified the design and specification of the Indoor stadium and the balance work was awarded (March 2013) to a contractor for ₹ 20.01 crore with a period of completion of eight months.

The inconsistencies in finalising the design and specifications of the work by NGS will lead to delay in completion of works. The chance of the multipurpose stadium being ready before the game is remote.

Renovation of swimming pool – wasteful expenditure

The swimming pool at Kerala Water Authority (KWA) campus at Thiruvananthapuram was initially selected as venue for conducting aquatic events. The existing swimming pool at the KWA campus was planned to be renovated and a new pool was also planned between the old pool and nearby Jimmy George indoor Stadium, Thiruvanathapuram. The work was awarded to a contractor (January 2010). Since the existing waterline of KWA was to be re-laid before commencement of the work, the NGS got the work executed by KWA and paid (December 2009) ₹ 1.50 crore.

The realigned water pipe, while excavating the earth for the new swimming pool, got displaced and started leaking due to heavy flow of underground seepage water from the Jimmy George indoor stadium side. Based on the recommendations of the expert technical assessment committee appointed by the Government, the construction works of the new pool was abandoned and the venue was shifted to the newly constructed International Swimming Pool, Pirappancode. Thus, the award for the construction of a swimming pool

without conducting its feasibility study resulted in a wasteful expenditure of ₹ 1.50 crore.

Audit analysis of the arrangements of National Games showed that only nine out of 25 works were fully/almost completed and the stages of completion of the seven works ranged between zero to 40 *per cent*. This indicates that progress of completion of the arrangements for National Games allotted to the State in November 2008 is poor and the targets fixed for completion of the arrangements were not achieved so far.

2.3.12 Internal controls

2.3.12.1 Arrears in Statutory Audit

As per the Kerala Sports Act 2008, the accounts of the Kerala State Sports Council were to be audited by the Local Fund Audit authorities and the reports was to be submitted to Government. However, Audit noticed that the accounts of the KSSC were audited only up to the year 2008-09.

2.3.13 Conclusion

The Department did not create a comprehensive database on sports infrastructure facilities in the State as envisaged and hence a realistic need based long-term plan to achieve the vision of the Department was not prepared. State Sports Development Fund, mainly intended to meet insurance coverage of students, to arrange training abroad and engagement of specialized coaches for meritorious sport persons, was not created despite a budgetary allocation of ₹ 1.25 crore was made available during 2010-12. Infrastructure development plans to excel in sports were limited to allocation of funds without prioritization and consequently the resources of the Government were thinly spread over on many projects leading to non-completion of many of the projects. The PYKKA, a centrally sponsored scheme, covered (December 2013) only 199 GPs and 28 BPs against the target of 400 GPs and 60 BPs resulting in non-achievement of the desired progress. Infrastructure development in connection with the 35th National Games indicates slow progress in achievement of the targets fixed by NGS. In view of the non-completion, non-creation and non-provision of infrastructure and equipment, the State's sports objectives of raising the level and quality of participation in national and international level sports events could remain unachieved.

2.3.14 Recommendations

- Government should ensure the early completion of the comprehensive database of sports infrastructure and sports personnel, to be used in the planning process for the development of sports in the State.
- Government should prioritise, with specific timelines, completion of sports infrastructure development works, delayed due to lack of funds and other bottlenecks and effectively utilise the available resources.
- Government should ensure speedy completion of all the projects for the smooth conduct of 35th National Games.

WATER RESOURCE DEPARTMENT

2.4 National Rural Drinking Water Programme

Highlights

To provide every rural person with water for drinking, cooking and other domestic basic needs, a national water supply and sanitation programme was introduced (1954) in the country. Accelerated Rural Water Supply Programme (ARWSP), introduced (1972-73) to accelerate the pace of coverage, was subsequently renamed as National Rural Drinking Water Programme (NRDWP). A performance audit of the implementation of the NRDWP in the State was conducted and following are the major observations of Audit.

Five year rolling plan as envisaged in the framework for implementation of NRDWP (2010) was not prepared and only Annual Action Plan was prepared. Consequently, adequate priority was not given for schemes started years back.

(Paragraph 2.4.5)

Lack of definite work execution plan led to non-achievement of early targets fixed for coverage of habitations. Out of 187 schemes taken up during 2008-13, only 34 were completed.

(Paragraph 2.4.8)

Seven schemes sanctioned for coverage of water quality affected habitations were not taken up.

(Paragraph 2.4.10)

Though 20 schemes were sanctioned for sustainability of water sources during 2008-13 by the State Level Scheme Sanctioning Committee (SLSSC), only four schemes were taken up and completed.

(Paragraph 2.4.11)

Out of the 16 sub-divisional laboratories formed in the State, 15 of them were functioning without separate infrastructure and technical facilities.

(Paragraph 2.4.12.1)

Though a State Water and Sanitation Mission was formed, activities as envisaged in the guidelines were not performed.

(Paragraph 2.4.14)

2.4.1 Introduction

To provide every rural person with water for drinking, cooking and other domestic basic needs on a sustainable basis, a national water supply and sanitation programme was introduced in the year 1954. To accelerate the pace of coverage, Central Government introduced the Accelerated Rural Water Supply Programme (ARWSP) in 1972-73. The entire programme was given a Mission approach when the National Drinking Water Mission (NDWM) was introduced in 1986. In 1991, NDWM was renamed as Rajiv Gandhi National

Drinking Water Mission. The ARWSP was subsequently renamed as National Rural Drinking Water Programme (NRDWP) for the Eleventh Five Year Plan period and this continued for the Twelfth Five Year Plan period.

The Guidelines of the programme revolved around the three distinct inter-related issues viz., accelerating the coverage of remaining uncovered habitations with safe drinking water systems, promote sustainability of safe drinking water systems and institutionalising water quality management, monitoring and surveillance systems.

2.4.2 Audit Objectives

The objectives of the Performance Audit were to assess whether:

- the planning process conceived was adequate for successful implementation of the programme in terms of coverage, source sustainability and water quality;
- the fund management was economical and effective;
- the implementation of various programme components was effective and efficient; and
- there existed effective monitoring and evaluation mechanism.

2.4.3 Audit Criteria

Audit adopted criteria derived from the following:

- Vision, Mission and Goals of NRDWP as reflected in the framework for implementation
- Water Quality norms stipulated in the Protocol on Water Quality Monitoring
- Work execution norms of Kerala Public Works Department Code and Public Health Engineering Department data book.

2.4.4 Scope and Audit Methodology

Kerala Water Authority (Authority), a statutory authority under the State Government, is the implementing agency for the programme. Economy, efficiency and effectiveness of the NRDWP implementation in the State, during the five year period (2008-2013) were reviewed. In the process, audit scrutinised the records of Water Resources Department, Head Office of the Authority, Project Divisions, Public Health (PH) Divisions, State Referral Institute (SRI) and Regional/Circle Offices, Quality Control Divisions/ laboratories and Collectorates in five[61] selected districts. Five out of 14 districts in the State were selected by adopting statistical sampling methods. Idukki, going by the information available in the Department's website, the district with most number of water contaminated habitations, was selected as the first sample and the remaining four districts were selected by applying Probability Proportionate to Size Without Replacement (PPSWOR) sampling method.

[61] Idukki, Kollam, Kottayam, Kozhikode and Malappuram

Detailed scrutiny of the records in five selected districts was conducted during the period from April to July 2013. Information and data required were collected by scrutiny of records in KWA and its sub-offices. An entry conference with the Principal Secretary, Water Resources Department, Government of Kerala was held on 27 March 2013 and audit objectives, criteria, districts selected for detailed scrutiny, etc., were intimated in the conference. An exit conference was conducted on 10 September 2013 with the Additional Chief Secretary, Water Resources Department for discussing the audit findings. The views of the department have been considered while finalising the performance audit report.

Audit Findings

2.4.5 Planning

As per paragraph 14 of the Framework for implementation, a Comprehensive Water Security Action Plan (CWSAP) is to be prepared for implementation in the State. The main objective of the CWSAP is to provide a definite direction to the programme, and also to ensure regular monitoring of the progress made by the respective States towards the goal of achieving drinking water security to every rural household. Under the broad goal set by each State, a five year rolling plan is to be prepared and during each financial year, the sub-goal and the priorities would be fixed based on mutual consultation by the Centre and the State. In this regard, audit observed the following:

- Annual Action Plans (AAP) were prepared for submission to the Department of Drinking Water and Sanitation (DDWS), Government of India, for allocation and release of funds. However, long-term five year rolling plan as envisaged in the framework was not prepared.
- In the AAPs, adequate priority was not given for incomplete schemes. Out of 32 schemes verified, 20 schemes remained incomplete beyond the stipulated date of completion.
- Framework for implementation stipulates involvement of Panchayathi Raj Institutions (PRIs), in planning and preparation of schemes. As Village Water and Sanitation Committees did not exist, there was no grassroot level involvement in planning and preparation of project reports for schemes.

The Authority stated that rolling plan was not prepared. However, programmes were implemented based on the AAP. It was also stated that strict directions were given to all the concerned officials to take urgent steps to complete the long pending schemes.

Absence of long-term planning and vision lead to several schemes started years back remaining incomplete. Adequate schemes were not planned and implemented for sustainability of sources and water quality, as discussed in the succeeding paragraphs.

2.4.6 Funds Management

2.4.6.1 Funds available for implementation

NRDWP funds are released by Government of India (GOI) in two parts viz., Programme Fund and Support Fund. The Programme activities comprise of schemes for coverage of habitations, source sustainability issues and Operation and Maintenance (O&M). The Support activities included Water Quality Monitoring and Surveillance (WQMS), Human Resources Development (HRD), Information, Education and Communication (IEC), Monitoring and Investigation/Evaluation (M&E) etc. In the programme activities, schemes for coverage of habitations and O&M, the contribution was shared between State and Government of India (GOI) in the ratio 50:50 and 100 *per cent* funding from GOI for the components source sustainability and support activities.

The receipt and expenditure under Programme Fund and Support Fund during the last five years are given in **Table 2.18**:

Table 2.18: Receipt and expenditure under Programme/Support Fund

(₹ in crore)

Year	Receipt of funds						Expenditure				
	Programme fund				Support fund & WQMS (Centre)	Total	Programme fund			Support fund & WQMS (Centre)	Total
	GOI[62]	State		Total for Programme activities			GOI	State	Total		
		To be released	Actually released								
2008-09	98.33	27.10	NIL	98.33	2.59	100.92	97.14	0	97.14	0.68	97.82
2009-10	150.90	117.53	83.25	234.15	4.24	238.39	149.67	0	149.67	1.32	150.99
2010-11	137.99	122.40	NIL	137.99	6.61	144.60	134.42	25.94	160.36	3.54	163.90
2011-12	124.26	105.20	50.00	174.26	9.45	183.71	124.01	0	124.01	3.13	127.14
2012-13	262.24	218.63	31.73	293.97	9.72	303.69	238.89	0	238.89	7.88	246.77
Total	**773.72**	**590.86**	**164.98**	**938.70**	**32.61**	**971.31**	**744.13**	**25.94**	**770.07**	**16.55**	**786.62**

Source: Compiled from GOI sanction orders, information provided by the Authority and Detailed Appropriation Accounts maintained by Principal Accountant General (A&E)

Utilisation of funds

During the period 2008-13, the Authority received ₹ 773.72 crore towards Programme fund and ₹ 32.61 crore towards Support Fund from GOI. Against these receipts, utilisation was ₹ 744.13 crore (96.18 *per cent*) and ₹ 16.55 crore (50.75 *per cent*) respectively. Inadequate infrastructure for water quality monitoring and surveillance programme activities were the quoted reasons for low utilisation of Support fund.

The State Government had, against its share of ₹ 590.86 crore, contributed only ₹ 164.98 crore (27.92 *per cent*) during the period covered under audit, resulting in a shortfall of ₹ 425.88 crore. Even the short releases were barely spent by KWA for the execution of the various programmes.

Audit assessed the State's share due to KWA fund and observed that the KWA neither maintained any records in respect of State share due nor claimed proportionate State share with reference to the funds release orders of GOI. Further, according to the guidelines, the State Government was required to release their share directly to the Programme fund account to which GOI

[62] Includes Opening Balance, interest received and other adjustments

released it's share. The State Government did not follow this procedure and the State's share was credited in a Treasury Savings Bank account along with other funds.

Responding to audit observations, the KWA stated that considering the State's investment in different rural water supply schemes like National Bank for Agriculture and Rural Development (NABARD) assisted schemes, Japan International Cooperation Agency (JICA) assisted schemes, etc., the State's share in rural water supply schemes was much more than that of the Central share. It was also stated that this was accepted by GOI in principle. However, the KWA did not produce any documentary evidence in support of the GOI's acceptance.

2.4.7 Coverage of Habitations

2.4.7.1 Habitation Survey

According to the Guidelines 2000, the norms adopted for NRDWP was 40 lpcd[63] for humans. Habitations where a drinking water source/point is not available within 1.6 kms in plains or 100 metres elevation in hilly areas or habitations having quality affected source were categorised as 'Not Covered (NC)/No Safe Source (NSS) habitations'. Habitations which have a safe drinking water source, but the capacity of the system ranges between 10 lpcd to 40 lpcd were categorised as 'Partially covered habitations'. All other habitations were categorised as 'Fully covered habitations'. With the introduction of Framework for Implementation of NRDWP, 2010, there has been a paradigm shift in respect of the status of coverage in the sense that the installation of a water supply system in a habitation does not confer the habitation 'fully covered' status unless every household in the habitation has been fully covered with potable water in sufficient quantity.

At the beginning of 2008-09, 6,483 habitations were 'Fully Covered', 5,815 habitations were 'Partially Covered' and 145 habitations were 'Not Covered'. However, under the direction of State government, all rural habitations[64] as on 31 December 2008 were treated as 'fully covered' considering private wells also.

To cover rural population with individual piped water connections and for coverage of water quality affected habitations, the KWA fixed targets for coverage with effect from 2009-10 in accordance with the revised NRDWP norms. The physical targets and achievements of coverage of habitations were as given in **Table 2.19**.

[63] litres per capita per day
[64] Reassessed as 11883 in 2009-10

Table 2.19: Target and achievement in respect of coverage of habitations

Year	Target	Achievement	Percentage of achievement
2009-10	362	153	42.27
2010-11	744	389	52.28
2011-12	824	221	26.82
2012-13	696	371	53.30

Source: Data furnished by the KWA

It was observed that KWA could not achieve the targets fixed in any of the four years covered under audit. Lack of definite work execution plan and consequent delay in implementing schemes led to denial of potable drinking water to a large segment of rural habitations in the State. The KWA attributed non-achievement of targets to unexpected problems including slow down of works during monsoon season, issues of land acquisition, paucity of funds etc.

Audit analysis of the impact of the programme showed that despite the Guidelines 2000 specifying norms of 40 lpcd of potable drinking water, by the end of 2012-13, only 76 lakh beneficiaries could be provided with 40 lpcd of potable drinking water which was only 30 *per cent* of the total rural population of 2.55 crore.

According to the information updated by the KWA on the website of DDWS, out of 11883 habitations the State has 859 'fully covered' habitations, 2,715 'not covered' habitations and the remaining are with 'partially covered' status while adopting the revised norm[65]. This indicates that State has long way to go in achieving the objectives of the programme and the programme could not bring substantial impact in providing potable drinking water to the rural population.

2.4.8 Programme Implementation/Execution of works

According to the NRDWP guidelines, for a three-year project period, the activities are to be sequenced and a detailed project implementation schedule has to be developed. At the beginning of 2008-09, there were 92 ongoing schemes and KWA took up 95 new schemes, during the period 2008-13. Out of these 187 schemes, the KWA has completed only 34 schemes.

In the five districts selected for detailed scrutiny, 12 executive divisions implemented 74[66] schemes during the review period. These schemes were intended to benefit a population of 24.39 lakh, but only 3.98 lakh could be covered due to partial completion of some of the schemes and the stipulated time for completion was over in respect of 45 schemes. Audit scrutiny of 32 schemes out of the above 74 schemes revealed the following.

- Out of these 32 schemes, nine schemes were completed, three were dropped subsequently due to land not being provided by the PRIs as assured, inadequate source, etc., and 20 schemes, including 11 major comprehensive water supply schemes extending to more than one village, remained incomplete.

[65] 55 lpcd with effect from 1 April 2013
[66] On-going schemes: 43, Newly taken-up: 31

- The nine schemes completed were also not completed within the stipulated project period of three years. In fact, six of the nine schemes had delays ranging from three to 10 years and Water Supply Scheme (WSS) to Paleri was completed after curtailing the distribution system. In five schemes[67], there was a cost escalation of ₹ 6.12 crore.
- Delays (five to 60 months) in according Technical Sanction and consequent delay in tendering were noticed in 14 schemes. Similarly, in nine works under three schemes, five to 18 months were taken to finalise the tenders.
- In five schemes, the works were delayed (from five to 13 years) due to delay in obtaining possession of land or non-availability of land. In five schemes, the works were initiated without obtaining required permission from National Highway Authority, Railways and Public Works Department of the State and the works were forced to stop mid-way.

The above observations indicate that the KWA is very weak in project management using established project management tools[68] like PERT chart, CPM, Gantt chart, etc., in prioritizing and scheduling of schemes.

Impact of 11 major schemes (out of 32), which failed to provide drinking water to the rural population much beyond the specified period of completion is given in succeeding paragraph along with a brief description of the status of the schemes and the reasons for non-completion given in **Appendix 2.10**.

2.4.8.1 Impact of incomplete schemes

While implementing major schemes, the KWA should have ensured hindrance free execution of each components of the scheme for timely completion, by proper planning and adequate feasibility study. Audit noticed serious lapses in ensuring water sources, possession of land, etc., which led to delayed implementation of the 11 major schemes and subsequent revision of estimated cost of the project from ₹ 132.80 crore to ₹ 201.77 crore. It also denied the benefit of potable drinking water to a large segment of rural population (the schemes were estimated to benefit about ten lakh people over a period of two decades). So far, ₹ 114.63 crore has been incurred on these schemes.

Audit visited the site of the source of Comprehensive Accelerated Rural Water Supply Scheme (CARWSS) to Vandanmedu and Anakkara villages. The site visit revealed that the flow of the water in the river was very meagre (May 2013) and the two pump sets purchased for pumping raw water to the water treatment plant (WTP) were lying idle in the pump house. The site and building of WTP were in an abandoned state with doors and windows missing. The motor pump sets installed (four numbers) were removed; all the mechanical and electrical equipments installed were also removed. As the construction of the weir at the water source is a remote possibility, the expenditure of ₹ 5.19 crore incurred so far remained unproductive. Some of

[67] (i) ARWSS to Kanjikuzhy, (ii) ARWSS to Paleri, (iii) ARWSS to Pallivasal, (iv) ARWSS to Erattayar and (v) ARWSS to A.R. Nagar

[68] PERT – Programme Evaluation Review Technique, CPM – Critical Path Method, Gantt chart – named after Henry Gantt who designed this chart

the photographs, taken in audit, depicting the poor state of affairs are shown below:

Installed pump sets removed from platform

Source at Amayar river

2.4.8.2 Schemes completed by reducing components

Escalation of cost due to delayed execution led to curtailment of distribution system in two schemes examined by audit with a design population of 87,250. In Comprehensive Water Supply Scheme (CWSS) to Manimala and adjoining villages and Accelerated Rural Water Supply Scheme (ARWSS) to Paleri, the distribution systems were curtailed to 15 *per* cent and 37 *per cent* respectively, due to cost escalation and consequent insufficiency of fund after executing other components of the schemes. Executive Engineers of the respective divisions accepted the Audit observations and stated that importance was given to major components of the scheme instead of distribution system. Curtailing of distribution system resulted in denial of potable drinking water to a population of 56,545.

Audit also noticed that due to delayed execution and subsequent revision of estimated cost, some of the components (in most cases the distribution system and connected components) had to be dropped to limit the expenditure within the original sanctioned amount. These components were arranged separately after fresh approval of SLSSC and after according fresh Administrative Sanction (AS). In five schemes[69], the cost escalation due to re-arrangement worked out to ₹ 18.45 crore.

2.4.9 Coverage for Sched uled Caste (SC)/Scheduled Tribe (ST) habitations

To accelerate the assured availability of potable drinking water on a sustainable basis in SC and ST dominant habitations, the State has to earmark at least 25 *per cent* of the NRDWP funds for drinking water supply to the SC dominated habitations[70] and a minimum of 10 *per cent* for the ST dominated habitations[71]. In the state, the funds are released to the concerned District

[69] WSS to Kumily, ARWSS to Naripatta, ARWSS to Valayam, ARWSS to Kayakodi, ARWSS to Thevalakkara & Thekkumbhagam
[70] Habitations in which more than 40 *per cent* of the population belongs to SC
[71] Habitations in which more than 40 *per cent* of the population belongs to ST

Collectors for implementation of water supply schemes for the SC/ST habitations.

2.4.9.1 Financial performance

Based on the release of funds for implementing NRDWP, ₹ 265.05 crore had to be released for water supply schemes intended for SC/ST beneficiaries, during 2008-13. But the KWA released only ₹ 90 crore to the District Collectors for the purpose. The utilisation of funds available with the District Collectors was poor (ranging from 40.66 *per cent* to 68.83 *per cent*) owing to lack of schemes and other implementing agencies[72] executing drinking water supply schemes in SC/ST habitations. The under-utilisation resulted in retention of heavy unspent balance at the end of each year, varying from ₹ 1.18 crore to ₹ 3.36 crore. Audit noticed that neither the KWA nor District Collectors took steps to assess the requirement of drinking water supply schemes and funds for implementing the schemes to avoid blockage/under-utilisation of funds meant for SC/ST habitations. Non-utilisation/under-utilisation of funds led to GOI reducing its releases in subsequent years. Further, improper utilisation led to incurring of extra expenditure by State Government for which GOI funds could not be obtained. Audit observations on the above points are detailed in the succeeding paragraphs.

The special Treasury Savings Bank account of the District Collector, Kottayam remained non-operative from November 2007 to November 2011 as no schemes were taken up during the period. In the event of non-utilisation of funds earmarked for implementing NRDWP under SC/ST habitations, the funds should have been remitted back to NRDWP fund. The account was closed in accordance with the directions of Principal Secretary, Finance Department and the balance in the account amounting to ₹ 17.74 lakh was credited to the State Government Account instead of remitting back to NRDWP fund in violation of the guidelines.

The KWA requires utilisation certificates with statement of expenditure and vouchers in respect of expenditure incurred by the District Collectors for funds utilised for SC/ST habitations. In the test-checked districts, the Collectors were not furnishing utilisation certificates with statement of expenditure and proper vouchers. The Principal Accountant General (G&SSA), Kerala disallowed ₹ 19 crore in 2008-09 and 2009-10 while certifying the accounts of NRDWP and resulted in incurring of extra expenditure by State Government to that extent, for which GOI funds were not obtained.

2.4.9.2 Physical performance

Out of the total 11,883 habitations identified, 201 were SC dominated and 108 were ST dominated. The district-wise number of schemes taken up for implementation and completed was as given in **Table 2.20**.

[72] Local Self-Government Institutions

Table 2.20: Details of schemes taken up for implementation and completed

District	No. of ongoing schemes as on 1 April 2008	No. of new schemes taken up during 2008-09 to 2012-13	Total	No. of cancelled/ abandoned schemes	No. of completed schemes	No. of ongoing schemes as on 31 March 2013	Percentage of completion
Kozhikode	23	8	31	-	10	21	32.26
Idukki	6	45	51	11	22	18	43.14
Kottayam	1	7	8	1	7	0	87.50
Malappuram	13	29	42	8	19	15	45.24
Kollam	10	80	90	-	66	24	73.33
Total	**53**	**169**	**222**	**20**	**124**	**78**	**55.86**

Source: Compiled from data furnished by the KWA

Detailed audit scrutiny revealed that barring Kottayam and Kollam districts, performance of other districts in taking up schemes in SC/ST habitations and executing it in timely manner was poor. The District Collector, Kottayam stated that inspite of repeated reminders, no proposals were received from the implementing agencies and the Local Self-Governments, possibly because other implementing agencies might have implemented their own drinking water supply schemes for SC/ST beneficiaries. Audit also observed that though the schemes taken up in SC/ST habitations were comparatively smaller in magnitude there was inordinate delay in execution of the schemes, as detailed below.

Out of 222 schemes ongoing and newly taken up for SC/ST habitations, in five selected districts, audit examined 52 schemes and deficiencies were noticed in 42 schemes. They are summarised as follows:

- Ten mini water supply schemes[73], which were to be completed within two to eight months, took 16 to 44 months for completion.
- Two schemes were not taken up for implementation even though AS was issued in March 2005/January 2010.
- Fifteen schemes were dropped/proposed to be dropped after issue of AS due to reasons such as non-availability of required land, non-feasibility, insufficient yield of source, etc.
- Fifteen schemes due for completion within two to 12 months after issue of AS, remained incomplete with delays[74] ranging between 16 months and 11 years.

Department of Drinking Water Supply, GOI observed (February 2012) that the progress of works was not satisfactory and major part of the funds released had not been utilised by the State Government. The KWA promised to have a better coverage of SC/ST habitations in 2012-13. But the performance did not improve. As there is more than one agency implementing drinking water supply schemes in SC/ST habitations, to avoid blocking of funds with District Collectors, convergence of schemes of various implementing agencies should be ensured by the KWA.

[73] These minor schemes were required to be completed within a span of 2 to 12 months of issue of AS

[74] Vengakalathi SC colony in Kakkur Panchayath in Kozhikode district for more than 11 years, another six schemes for more than six years and remaining eight schemes for more than 16 months as of March 2013

2.4.10 Coverage for water quality affected habitations

The World Health Organisation attributed 88 *per cent*[75] instances of diarrhoea to unsafe water supply and inadequate sanitation practices in the world. Since well water is the major source of drinking water in Kerala, bacterial and chemical contamination in drinking water are high. According to the Ministry of Drinking Water and Sanitation, GOI, Kerala has the highest chemical and bacterial contaminated drinking water in the country. Test results of KWA revealed that nearly 34 *per cent* of the total tested sources in Kerala have been contaminated with presence of iron, fluoride, salinity, nitrates, arsenic and bacteria. The details of water quality affected habitations at the beginning of each year were as given below.

Table 2.21: Details of affected Habitations (out of 11883 habitations)

Year	Fluoride	Iron	Salinity	Nitrate	Total	Percentage of affected habitations
1 April 2009	172	1291	335	81	1879	16
1 April 2010	109	662	194	53	1018	9
1 April 2011	109	623	191	46	969	8
1 April 2012	106	585	186	57	934	8
1 April 2013	106	564	167	56	893	8

Source: Website of Department of Drinking Water & Sanitation, GOI

The above table shows that the percentage of the affected habitations in Kerala came down from 16 to eight *per cent* during the review period.

Audit scrutiny revealed that out of ₹ 162.77 crore available during 2008-13, for utilisation under water quality program, the KWA could spend only ₹ 42.19 crore (26 *per cent*). Though the SLSSC sanctioned seven schemes costing ₹ 38.20 crore during 2008-09 to 2012-13, none of them were taken up for implementation during the period. This shows there was inadequate effort on the part of the KWA in providing safe drinking water to rural population, even when sufficient funds were available.

In the SLSSC meeting (June 2010) the Principal Secretary, Water Resources Department, suggested to cover all 1,018 quality affected habitations within two years so that the number of quality affected habitations was brought to nil. But, at the end of three years (31 March 2013), 893 habitations still remained to be covered. The KWA stated that directions were issued (October 2013) to all Chief Engineers to give top priority and to prepare projects to cover all the quality affected habitations in a phased manner.

Though a considerable section of population was affected by water quality problem, achievement in respect of schemes for coverage of quality affected habitations was poor during the period covered under audit.

2.4.11 Sustainability of water sources

Guidelines of NRDWP, 2000 regarding sustainability of water sources stipulate a number of steps, which would facilitate the sustainability of ground water in a more scientific manner. A two-pronged strategy was to be adopted to regulate indiscriminate withdrawals and to adopt appropriate measures for

[75] Data taken from Economic Review, 2012

augmenting its recharge through spreading techniques in alluvial areas, check-dams and percolation tanks, nalla bunding, contour bunding, contour trench, surface-channels etc. Besides, direct injection methods utilising the abandoned structures available in large numbers in the hard rock region were prescribed. According to the guidelines 20 *per cent* of the NRDWP funds need to be utilised for source sustainability activities. Audit observed that against the released fund of ₹ 89.92 crore, only ₹ 24.16 crore (27 *per cent*) was utilised during the period covered under audit. Audit further noticed that:

- Though 20 schemes were sanctioned by the SLSSC during the period 2008-13, only four schemes were taken up and completed in the State.
- No schemes were taken up for infiltration rings, recharge pits, percolation tanks, injection wells etc., during the five year period.
- In the test-checked districts, no schemes for sustainability of sources were taken up during the period 2008-13.

The KWA stated that the works related to ground water recharge were being carried out by Ground Water Department.

As the physical and financial performance was poor, the DDWS observed that the KWA Engineers, in general, did not have adequate capacity to understand and design sustainability structures. Further the Hydro-Geo-Morphological (HGM) maps already available with the State Ground Water Department were not being used. DDWS also recommended (October 2011) immediate two day training programme for about 30 Engineers on usage of HGM maps. However, the KWA did not furnish the details of training, if imparted.

In the light of above remarks of DDWS, the KWA transferred ₹ 5.00 crore (out of the total provision of ₹ 8.08 crore in 2012-13) to Kerala Rural Water and Sanitation Agency[76] (KRWSA) for carrying out source sustainability activities. The KWA stated that based on objection from GOI, KRWSA was requested to refund the unspent balance for works for which AS were not issued and to submit Utilisation Certificates for works carried out. Audit observed that the details of schemes implemented and expenditure incurred by KRWSA were not available with the KWA. As sanctioned schemes were not taken up for source sustainability, water security in the various sources could not be ensured.

2.4.12 Water Quality Monitoring and Surveillance

The National Water Quality Monitoring & Surveillance Programme (WQM&SP) launched in February 2005 was merged with NRDWP and modified to be implemented with effect from 1 April 2009 with institutionalisation of community participation in the programme.

2.4.12.1 Setting up of laboratories

Water quality surveillance requires strong and effective organisational framework for assessing the safety and accessibility of water supplied to the people. Laboratories are to be set up at three levels-a nodal unit at the top

[76] Agency entrusted with implementation of rain water harvesting programme

level, intermediary level units like district laboratories and grassroot level units. The Manual (Implementation Manual on WQM&SP) stipulates that the surveillance agency may be separate from the water supply agency; alternatively there may be two separate wings of the rural water supply department. There are 14 district laboratories in the state. State Referral Institute (SRI) established at Ernakulum (February 2009) acts as the nodal unit in the state. Audit observed that:

- Mandatory accreditation from 'National Accreditation Board for testing and calibration Laboratories' (NABL)/appropriate agency of GOI required for SRI, has not been obtained till date (July 2013), as no steps in this regard were initiated by the KWA.
- Though SRI was formed with statewide jurisdiction, it had the administrative control of only two[77] district laboratories and all other districts laboratories were under the administrative control of three quality control divisions[78] of the KWA. Hence, the performance of only two district laboratories was monitored and reported to this institute. This system not only defeated the uniformity in functioning of the laboratories but also violated the Manual provisions. Besides, certain kind of surveillance and tests like analysis of heavy metal, toxic elements, pesticides, etc., were available only in SRI and hence the programme suffered as comprehensive assessment of water quality was not available at the district laboratories.
- Under NRDWP, the State has to establish water testing laboratories at sub-divisional level to carry out the enormous task of water quality monitoring by checking one sample per 200 people. Out of the 16 sub-divisional laboratories formed in the State, 15 of them were attached to district laboratories using the same premises and manpower and no separate infrastructure and technical facilities were created.

With the existing 30 laboratories at district and sub-divisional level, at the rate of 3,000 samples per laboratory, only 30 *per cent* of 2,97,121 representative sources (December 2013) could be covered annually. Executive Engineer, Quality control Division, Kozhikode stated that the present facility was not sufficient and setting up of 11 additional sub-divisional laboratories under the Divisions was proposed.

2.4.12.2 Water quality testing

As per the norms stipulated in the Framework for Implementation of NRDWP Guidelines, all drinking water sources should be tested at least twice in a year for bacteriological contamination and once in a year for chemical contamination. District laboratories have to test at least 30 *per cent* of water samples tested at Grama Panchayath (GP) level and all cases where possibilities of contamination were reported by the community. Ten *per cent* of all samples including all positively tested samples tested by district laboratories are to be confirmed at state level. In this regard, audit observed as under.

[77] Ernakulam and Idukki
[78] Ernakulam, Kozhikode and Thiruvananthapuram

- One time testing of all the sources in the state was not completed even during the five year period. Out of 2,97,121 sources, 1,15,716 (39 *per cent*) sources could be tested so far (December 2013). Of these, 27,052 sources were found chemically contaminated and 36,135 sources bacteriologically contaminated.
- The district laboratories did not check any sample at GP level by using Field Test Kits (FTKs) against at least 30 *per cent* to be done by them for confirmation and no samples were referred to SRI by district laboratories. Thus, cross checking of water quality was not done at any level.

2.4.12.3 Water Safety Plan and Sanitary Survey

Water safety plan prescribed by the Framework for Implementation of NRDWP guidelines links identification of water quality problem with a water safety solution. It includes both water quality testing and also sanitary inspection to determine appropriate control measures. For the successful implementation of WQM&SP, data generated through monitoring shall be linked with mitigatory/preventive measures and rechecking of the quality after taking preventive action. Surveillance requires a continuous and systematic programme of sanitary inspection and water quality testing. Sanitary survey should be carried out once in a year for all the drinking water sources in the state. Sanitary inspections are intended to provide a range of information and locate potential problems.

Under Nirmal Bharath Abhiyan, the State had achieved 100 *per cent* against the target of providing individual household latrines (IHHL) under BPL/APL households, schools and anganwadis. Inspite of this good performance, presence of E-Coli and Coli form bacteria was found in most of the water sources tested for biological contamination, due to high density of septic tanks/latrine pits and drinking water sources. Out of the 28985 sources tested in 2012-13, E-Coli and Coli form contamination was found in 5145 and 19156 sources respectively.

Sanitary survey as envisaged in the Guidelines for National Rural Drinking Water Quality Monitoring & Surveillance Programme, 2006 was not conducted so far and this adversely affected the preparation of the Water Safety Plan and exposed the population to biological contamination.

2.4.12.4 Field Test Kits

In the State, Communication and Capacity Development Unit (CCDU) under the Water Resources Department conducts water quality monitoring using Field Test Kits (FTKs). The main objective of the FTKs was to obtain a preliminary report on quality of water with basic chemical and bacteriological parameters. The guidelines envisaged financial sustainability through full cost recovery of operation and maintenance of FTKs by community contribution at Rupee one per family per month. The amount so collected was to be deposited in the account of the Village Water and Sanitation Committee (VWSC). Audit observed that VWSCs were not constituted in any of the GPs in the State defeating the objective of community participation. The target and

achievement of water quality monitoring by using FTKs for the period 2010-13 was as given below.

Table 2.22: Target and achievement of water quality monitoring

Year	Target	Achievement	Shortfall (-)/Excess (+)
2010-11	400000	11059	(-)388941
2011-12	149275	151221	(+)1946
2012-13	**171150**	**54086**	**(-)117064**

Source: Information furnished by the CCDU

In response to audit observation on shortfall in achievement, the Director, CCDU stated that the shortfall was due to delay in approving the action plan and consequent delay in procuring the FTKs and conducting training programmes.

During 2008-13, CCDU procured 5200 number FTKs for testing 5,20,000 water samples at the rate of 100 samples per FTK and 50,100 number of H_2S[79] strips for analyzing bacteriological contamination at one sample per strip. As the bacteriological contamination testing was required twice in a year, procurement of only 50,100 H_2S strips (only 10 *per cent* of the possible FTKs test) was inadequate.

The KWA stated that proposal for providing infrastructure to sub-divisional laboratories had been included in the Annual Action Plan and the implementation was under progress. Action was also taken to improve the infrastructure facilities of the Quality Control laboratories in order to achieve the envisaged targets.

According to the guidelines, GOI has to assess the quality of implementation of the program (WQM&SP) by sending review missions. Also, State/district level officers should conduct regular field inspections, and quarterly review of the progress at block level should be carried out. State Water Sanitation Mission should conduct review of the programme in the district once in six months. Audit scrutiny revealed that no programme assessment/inspection/review at any level was conducted in the State during 2008-13. Director, CCDU stated that CCDU as part of its regular activities, monitors the implementation of the programme in the State, and since it is an internal activity, no reports have been prepared and filed. This statement is not acceptable as NRDWP guidelines stipulated specific review process at various levels.

2.4.13 Operation and Maintenance

NRDWP Guidelines (2010) specify that State Government or its agencies may shoulder the responsibility of bulk metered transfer of water, its treatment and distribution up to the village, whereas inside the village, it is the PRI or its subcommittee to take over the responsibility for in-village drinking water management and distribution. The existing water supply systems had to be transferred to communities and PRIs for management, operation and maintenance. The KWA prepared a list of 1050 single Grama Panchayath schemes in November 1998 for handing over to the respective PRIs consequent on decentralised planning and has transferred 229 schemes till date

[79] Hydrogen Sulphide

(June 2013). The status of single Panchayath schemes was revised during 2010-11 and 1076 schemes were identified for transfer to PRIs. Audit observed that, during the five year period, out of the total funds of ₹ 93.16 crore available for operation and maintenance, the KWA transferred (2012-13) only ₹ 3.02 crore to 25 Grama Panchayaths for 45 schemes.

In the exit meeting, the department stated that the local bodies were not willing to take over the completed schemes for operation and maintenance as they lacked technical and financial capability to run the schemes.

2.4.14 Monitoring and Evaluation

(i) Functioning of State Level Scheme Sanctioning Committee (SLSSC)

As stipulated in the guidelines, SLSSC was constituted for sanctioning new schemes and for reviewing the progress, completion and commissioning of the schemes approved earlier. Though the committee convened one meeting in each year (against the stipulation of two meetings) to discuss AAP, review of long pending schemes was not carried out in the meeting. The KWA stated that monitoring and evaluation of the schemes were also being carried out during the meeting where financial details of the ongoing schemes were discussed. However, the minutes of the meeting do not support the argument of the KWA and effective steps proposed to be taken to complete the delayed schemes were not evident from the minutes.

(ii) Monitoring and evaluation study by Centre and State

According to the guidelines, GOI and State Government should take up an independent monitoring and evaluation study on implementation of the programme, through reputed organisations/institutions, from time to time and the reports of these studies should be made available to the department for immediate corrective action. Such an evaluation study has not been conducted by the Centre and the State.

(iii) State Water and Sanitation Mission

As a step towards achieving coordination and convergence among State Departments dealing with water supply, sanitation, education, health, etc., a State Water and Sanitation Mission (SWSM) was to be set up at the State level to provide policy guidelines, coordination with various State Government Departments and other partners. SWSM is also responsible for monitoring and evaluation of physical and financial performance besides management of the water supply and sanitation schemes. Audit observed the following:

- Though a State Water and Sanitation Mission was formed by the State Government in January 2004, activities as envisaged in the guidelines were not performed by the Mission. Project formulation, co-ordination with other implementing agencies, monitoring and evaluation etc., were carried out by the KWA.
- State Water and Sanitation Committee, the apex body of the Mission constituted in 2004, was reconstituted in 2007, 2009 and 2010. Though the Committee met only twice during 2008-13, evaluation of

long pending schemes, steps for improving the implementation process, etc., were not discussed in the meetings.

The KWA stated that most of the members of SWSM Committee were present in the SLSSC. However, the fact remains that envisaged role of SWSM was not carried out by SLSSC.

2.4.15 Conclusion

To provide every rural person with water for drinking, cooking and other domestic basic needs, a national water supply and sanitation programme was introduced in the country. Though, a five year rolling plan with sub-goals and priorities for each year was mandatory, only AAP with yearly targets was prepared. In schemes involving several components, failure to plan and synchronize resulted in delayed commissioning of the schemes. Audit analysis of the impact of the programme revealed that despite the Guidelines 2000 specifying norms of 40 lpcd of potable drinking water, by the end of 2012-13, only 76 lakh beneficiaries could be provided with said quantity of potable drinking water, which worked to only 30 *per cent* of the total rural population of 2.55 crore. The challenges before the Government become all the more acute when faced with the heightened norms of providing piped water with quality to each household and higher norms of 55 lpcd.

Delayed execution of 11 major schemes resulted in cost escalation and denial of potable drinking water facility to 10 lakh rural population. Poor progress was noticed in respect of schemes implemented for coverage of quality affected habitations and for sustainability of waters sources. Out of the 16 sub-divisional laboratories formed in the State, 15 of them were functioning without separate infrastructure and technical facilities. Though a State Water and Sanitation Mission was formed, activities as envisaged in the guidelines were not performed. Effective monitoring and evaluation by State Level Scheme Sanctioning Committee or evaluation study by Central/State Government was absent during the period covered under audit.

2.4.16 Recommendations

- The KWA should prepare a comprehensive rolling plan for according priority for completion of schemes already taken up.
- In view of the criticality of the water quality problems, the KWA should accord priority to cover all quality affected habitations in providing safe drinking water to rural population.
- Government should urgently formulate and execute schemes for sustainability of water sources to ensure water security in the State.
- The State Water Supply and Sanitation Mission should function to ensure greater coordination and convergence among various departments, besides carrying out other activities as envisaged in the scheme guidelines.