



**TWELFTH KERALA LEGISLATIVE ASSEMBLY**

**COMMITTEE  
ON  
PUBLIC UNDERTAKINGS  
(2006-2008)**

**NINTH REPORT**

(Presented on 17th October, 2006)

SECRETARIAT OF THE KERALA LEGISLATURE  
THIRUVANANTHAPURAM  
2006

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**On**

**[Kerala Water Authority based on the Report of the Comptroller  
and Auditor General of India for the year ended  
31st March, 2001 (Civil)]**

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## INTRODUCTION

I, the Chairman, Committee on Public Undertakings (2006-2008) having been authorized by the Committee to present the Report on their behalf, present this 9th Report on Kerala Water Authority based on the Report of the Comptroller and Auditor General of India for the year ended 31st March, 2001 (Civil) relating to the Government of Kerala.

The Report of the Comptroller and Auditor General of India for the year ended 31-3-2001, was laid on the Table of the House on 15-3-2002. The consideration of the audit paragraphs included in this Report and examination of the departmental witness in connection thereto was made by the Committee on Public Undertakings constituted for the years 2004-2006.

This Report was considered and approved by the Committee at the meeting held on 9-10-2006.

The Committee place on record their appreciation of the assistance rendered to them by the Accountant General (Audit), Kerala, in the examination of the Audit Paragraphs included in this Report.

The Committee wish to express their thanks to the officials of the Water Resources Department of the Secretariat and Kerala Water Authority for placing before them the materials and information they wanted in connection with the examination of the subject. They also wish to thank in particular the Secretaries to Government, Water Resources Department and Finance Department and the officials of the Kerala Water Authority who appeared for evidence and assisted the Committee by placing their considered views before the Committee.

MANKODE RADHAKRISHNAN,

Thiruvananthapuram,  
17th October, 2006.

*Chairman,  
Committee on Public Undertakings.*

## REPORT

### KERALA WATER AUTHORITY

#### AUDIT PARAGRAPH

#### *Accelerated Rural Water Supply Programme*

Accelerated Rural Water Supply Programme is a Centrally Sponsored Scheme aiming to cover all the 9776 habitations identified in 1992 in the state by the end of 8th Plan. Due to under-utilisation of Central assistance received during 1998-99 to 2000-01 Rs. 27.89 crore was forgone. There was no improvement in the coverage of Non Covered (NC) into Partially Covered (PC) and PC into Fully Covered (FC) during 2000-01. As of March 2001, 838 NCs and 5939 PCs awaited upliftment into PC and FC status respectively. Hundred and twenty eight schemes sanctioned for Rs. 443.45 crore were either not taken up or remained incomplete as of March 2001. Implementation of schemes to benefit SC/ST population was tardy due to non-release of assistance by Government to Kerala Water Authority, treasury restrictions and non-utilisation of funds by DCs. While execution of critical work components was either very slow or at a stand-still, huge expenditure was incurred on purchase of pipes and accessories. Implementation of schemes to control fluoride/salinity was delayed inexorably resulting in loss of Central assistance of Rs. 6.57 crore. Quality assurance in water supplies and prevention/precautionary mechanism for control of water-borne diseases were deficient.

#### 7. 14. 1 *Introduction*

Accelerated Rural Water Supply Programme (ARWSP), a cent per cent Centrally Sponsored Scheme introduced by GOI in 1972-73, was revamped in April 1999 to provide potable drinking water at the rate of 40 litres per capita per day (lpcd) to all rural habitations particularly in identified problem villages. It also aimed to preserve quality of water and to ensure sustainability of system and sources. By the end of Eighth Plan (1992-97), the scheme was targeted to cover all the 9776 identified habitations with a population of 2.17 crore. Kerala Water Authority (KWA) was the implementing agency of the scheme in

the State. Thirty-five per cent of the ARWP funds was to be earmarked for schemes to benefit Scheduled Castes (25 per cent) and Scheduled Tribes (10 per cent). The Schemes for the SC/ST beneficiaries were implemented by the District Collectors.

The implementation of the scheme was reviewed (February-June 2001) through test check of records for the period from 1997-98 to 2000-01 in the offices of KWA, Thiruvananthapuram and three Chief Engineers (out of seven), three PH Circle Offices (out of seven) and 10 Public Health and Water Works Division Offices (out of 32) and four District Collectors (out of 14). The results of review are discussed below:

#### *7.14.2 Financial outlay and expenditure*

Central assistance foregone

ARWSP is a 100 per cent Centrally Sponsored Programme and allocation of Central assistance is restricted to the expenditure incurred by the State under the Minimum Needs Programme (MNP). As per the guidelines, 60 per cent of available funds (unspent balance, if any, from the previous year plus funds released as first instalment in April) at the beginning of each financial year should be utilised by the end of December in order to obtain the next instalment (last and final) from the Central allotment to the States in that financial year. During 1998-2001, Central assistance of Rs.104.20 crore was received, while only Rs.76.31 crore could be spent which resulted in loss of Central assistance of Rs. 27.89 crore.

#### *7.14.3 Shortfall in providing potable water to rural population*

As per the criterion fixed by GOI, habitations where no potable water was available were categorised as Non Covered (NC), where potable water was available at the rates below 40 lpcd as Partially Covered (PC) and where potable water at the rate of 40 or more lpcd was available/provided as Fully Covered (FC). With effect from 1 April, 1999, habitations with less than 10 lpcd were recategorised as NC. According to the survey conducted in 1992, out of 9776 habitations 2289 were NC habitations, 7422 were PC and 52 were FC habitations. KWA also identified 13 Not Accessible/Not Covered (NN) habitations. As of April, 1997, there were 7141 PCs and 1148 NCs coverage achieved during the four years being 4 per cent and 50 per cent respectively. An analysis of the targets and achievement in providing drinking water to the

rural population showed that during 1997-2001, KWA could convert only 310 out of 1148 NCs into PCs/FCs and 1202 out of 7141 PCs into PCs/FCs vide details below:

<i>Year</i>	<i>Target/habitations</i>			<i>Achievement/habitations (Percentage in bracket)</i>		
	<i>NC to PC/FC</i>	<i>PC to PC/FC</i>	<i>Total</i>	<i>NC to PC/FC</i>	<i>PC to PC/FC</i>	<i>Total</i>
1997-98	500	1203	1703	158(32)	372(31)	530(31)
1998-99	430	796	1226	110(26)	412(52)	522(43)
1999-2000	300	550	850	38(13)	354(64)	392(46)
2000-01	101	635	736	4(4)	64(11)	68(9)
Total	1331	3184	4515	310	1202	1512

Action plan (2001) chalked out by KWA disclosed that there were 842 NC and 6297 PC habitations (February 2001). The main reason for the low achievement was delay in obtaining land from Panchayats/Forest Department for construction of treatment plants etc. KWA also attributed the slippage to delayed administrative clearance by various department and delay in obtaining approval from State Government for tenders exceeding Rs.1 crore.

#### *7.14.4 Diversion of funds meant for benefit of SC/ST*

According to norms, at least 25 per cent and 10 per cent of the ARWSP funds were to be utilised for the benefit of Scheduled Castes (SC) and Scheduled Tribes (ST) respectively. Accordingly, KWA was to release 35 per cent of funds to District Collectors (DCs) for the implementation of the SC/ST component of the scheme. In accordance with GOI norms, Rs. 71.56 crore (i.e., 35 per cent of funds) received during 1995-2001 was to be utilised on SC/ST schemes KWA directly spent Rs. 8.40 crore on sub schemes and released Rs. 69.62 crore to the District Collectors. However, out of these amounts Rs. 17.85 crore could not be drawn in 1999-2000 by DCs due to treasury



restrictions. Further, grant of Rs. 11.22 crore (including SC/ST scheme share of Rs. 3.34 crore) received from GOI in March 2000 was not transferred to KWA by Government even as of March 2001. The utilisation of Central assistance by DCs also was tardy. Six DCs had an unspent balance of Rs. 10.48 crore out of Rs.22.53 crore received by them as of March 2001.

*7.14.5 Domestic and non-domestic connections given contrary to prescribed norms.*

ARWSP provided for supply of drinking water only through public stand posts (SP) and prohibited giving domestic (DC) and non-domestic (NDC) water connection schemes. Scrutiny revealed that in violation of scheme provisions 2274 domestic connections for commercial and industrial purposes and 104 non-domestic connections were given under six schemes, three in PH Division, Perumbavoor, one in PH Division, Thiruvananthapuram and two in PH Division, Kollam while only 887 stand posts were established. The scheme in which the deviation was more prominent was ARWSS, Vilavoorkal (PH Division, Thiruvananthapuram) where 970 domestic connections were given as against 198 stand posts. Possibility of malpractice in such cases cannot be ruled out. The matter calls for investigation. As the schemes were intended to provide potable water to rural population at the rate of 40 lpcd exclusively through stand posts, such large scale supply of water through domestic and non-domestic connections resulted in denial/short supply of potable water to the targeted population at the prescribed level.

*7.14.6 Huge time and cost overrun*

Estimates of individual ARWSP schemes were approved by GOI, but ARWSP funds were released by GOI in lump sum for all such schemes as per the prescribed criteria. Any excess expenditure on schemes over the sanctioned estimates was to be met from State funds under MNP. KWA made no effective action plan to avoid cost and time over runs and to judiciously utilize the GOI funds for timely completion of the schemes.

An analysis of 154 schemes (out of 515) under ARWSP sanctioned during the period 1978-2001 revealed that only 26 schemes (17 per cent) were completed as of March 2001. The cost over run in respect of these schemes

worked out to Rs. 17.23 core which was 118 per cent over the original sanctioned estimated cost. Five schemes where cost escalation was steep, are mentioned below:

<i>Name of ARWSS and District</i>	<i>Year of Sanction</i>	<i>Cost (Rs. in crore)</i>	
		<i>Estimated</i>	<i>Actual</i>
1. Alur-Thazhakkad, Thrissur	1985-86	0.22	1.16
2. Chengamanad-Nedumbassery, Ernakulam	1984-85	0.60	3.26
3. Padinjarathara and Thirode, Wayanad	1986-87	0.44	1.59
4. Vathukudy, Wayanad	1988-89	0.48	1.45
5. Thiruvallure-Ayancherry and Kottappady, Kozhikode	1987-88	1.05	3.16
Total		2.79	10.62

Of the remaining 128 schemes, 31 schemes sanctioned between 1992-2001 at a total cost of Rs.137.33 crore were yet to be taken up. The balance 97 schemes estimated to cost Rs. 306.12 crore remained incomplete though Rs. 98.73 crore (32 per cent) was spent as of March 2001. In 17 out of 97 incomplete schemes, cost overrun as of March 2001 was Rs.16.63 crore overshooting the total estimated cost by 106 per cent. As excess expenditure was met from funds for MNP or assistance from LIC/HUDCO, which could otherwise have been utilized on other schemes, failure to complete the schemes in time impeded the implementation of other schemes.

#### *7.14.7 Lethargic implementation of schemes*

(a) KWA took up an Accelerated Rural Water Supply Scheme to Kothakulangara South and Manikkamangalam Village in Ernakulam District at an estimated cost of Rs.1.50 crore, in October 1993 for completion by September 1996. For the scheme intended to benefit a population of 59 thousand, water was to be tapped from the in-take structure put up in Periyar river for the Angamaly Water Supply Scheme. Major components of the scheme were treatment plant (TP), pumping main of 3550 metres, OH tank and distribution system.

As of August 2001, works on TP and pumping main were not commenced and the distribution system remained partially completed. Delay in completion of TP was mainly due to non-availability of required land from the panchayat authorities (till May 1998) and the failure to finalise the tender despite repeat tender calls in July 1998/October 1998/December 1998/August 2000. Due to non-availability of pipes, distribution system over 3368 metres was not taken up. Thus, though expenditure of Rs. 1.33 crore was incurred as of March 2001, the scheme remained incomplete (August 2001).

(b) ARWS scheme in Marukil-Maranallur villages in Thiruvananthapuram District (estimated cost of Rs.1.54 crore) was to be completed within October 1996. The major components of the scheme were well-cum-pump house, treatment plant, clear water sumps, raw water pumping main, transmission main, gravity main two ground level service reservoirs (GLSR), one overhead service reservoir (OHSR) and distribution system in three zones.

However, except transmission main, one GLSR and distribution system in two zones, works on other components were not taken up as of May 2001. Construction of intake arrangement entrusted to Irrigation Department in March 2000 was not started as of May 2001. Though KWA identified 15 cents of land in Maranallur Panchayat in 1993 for construction of OHSR, it was not acquired even as of May 2001. Meanwhile, the land owner constructed a residential building on this land. No alternative site for construction of OHSR was identified as of May 2001. Total expenditure incurred on the scheme upto March 2001 was Rs.1.12 crore.

Thus, the scheme stipulated for completion by October 1996 remained incomplete after five years (May 2001) and investment of Rs.1.12 crore fetched no return.

(c) ARWS scheme at Kothakulangara North village in Ernakulam District costing Rs. 1.94 crore, was due to be completed by February 1996. The scheme intended to supply treated drinking water to designed population of 43 thousand people comprised an intake well-cum-pump house, treatment plant, a ground level tank and distribution system. As of November 2000 only a portion of the pumping main and distribution system had been executed by KWA and work on other components has not been started (May 2001). Even the estimates for treatment plant and ground level tank had not been sanctioned by the MD, KWA. Tenders for the work on intake well-cum-pump house

invited on four occasions between December 1996 and May 2000 could not be finalised as the rates were considered to be very high. Pipes costing Rs. 60.59 lakh were procured between June 1996 and August 1999 and part of the pumping main and distribution system laid at an expenditure of Rs. 12.78 lakh. For want of pipes of the required specifications (200 mm CI), pumping main and distribution system remained incomplete. The unnecessary procurement of pipes much ahead of completion of other components was done in disregard of direction issued (March 1993) by Managing Director, KWA to give first priority for the works on source and reservoirs and to take up distribution system after achieving sufficient progress on other components. Thus, execution of the various components were not dovetailed by Chief Engineer in a phased and planned manner resulting in unfruitful investment of Rs.73.37 lakh and non-completion of the scheme for five years.

*7.14.8 Unnecessary piling up of stock of pipes*

Two PH divisions (Thiruvananthapuram and Kollam) purchased pipes worth Rs. 4.11 crore for 5 ARWS schemes during June 1997 to January 2001 with the sole intention of projecting utilization of funds to forestall reduction in future release of funds by GOI vide details in the following table:

*(Rupees in crore)*

<i>Division and name of schemes with month of sanction</i>	<i>Estimated amount</i>	<i>Upto date expenditure</i>	<i>Expenditures on purchase of pipes</i>	<i>Stage of work</i>
(1)	(2)	(3)	(4)	(5)
PH Division Thiruvananthapuram				
(i) Edakode and adjacent Villages— May 1998.	6.09	1.33 (January 2001)	1.32	Work not awarded
(ii) Irooppara and adjacent Villages— February 1999	4.12	0.54 (January 2001)	0.54	„

	(1)	(2)	(3)	(4)	(5)
(iii) Kazhakoottam and Meenamkulam— February 1999	2.90	0.20 (January 2001)	0.20		Work not awarded
PH Division, Kollam					
(i) Pathanapuram and adjacent v i l l a g e s — October 1993	3.78	1.13 (March 2001)	1.07		construction of well and Pump house stopped as land for treatment plant was not available.
(ii) Kulathupuzha and adjacent v i l l a g e s — October 1993	1.91	1.13	0.98		„
Total	18.80	4.33	4.11		

The expenditure incurred on these works (excluding the cost of pipes) was insignificant as of March 2001 and therefore the procurement of so much pipes had no justification. In Thiruvananthapuram PH Division, Rs. 2.06 crore worth of pipes intended for 2 Urban WSS was booked as expenditure on three schemes to be arranged under ARWSP, owing to insufficient budget provision under Urban WSS. Thus, pipes procured ostensibly for the ARWSP schemes were diverted for other schemes under Urban Water Supply Programme.

The pipes held in stock were covered by suppliers; guarantee for only 1 to 2 years after purchase and as they were lying unused for very long periods, loss if any due to defective supply, would have to be borne by the State Government. Thus premature purchase exposed KWA/Government to risk of defective supply.

#### 7.14.9 Non-utilization of GOI assistance

GOI released in December 1999 Rs. 1.13 crore to State Government for computerization activities in the State during 1999-2000. But the funds remained unutilized with KWA as of September 2001 as KWA did not obtain GOI instructions on the purpose and manner of utilization of the assistance.

#### 7.14.10 Delay in completion of projects on fluoride/salinity control

Two Sub Mission Projects were sanctioned by GOI during 1997-98 and eight by State Government during 1998-2000 at an estimated cost of Rs. 54.67

crore for controlling excess salinity/fluoride problems. These projects were to be completed within three years. The status of the above schemes as of March 2001 was as follows:

<i>Name of Submission Project and Year of Sanction</i>	<i>Nature of quality problem</i>	<i>Project Total</i>	<i>Cost Central Share</i>	<i>GOI release</i>	<i>Expenditure upto February 2001</i>			<i>(Rupees in crore)</i>	
					<i>Central</i>	<i>State</i>	<i>Total</i>	<i>Present Stage</i>	
CWSS to Alappad and Clappana 1997-98	salinity	7.23	5.42	2.71	0.65	0.21	0.86	land for tank not available	
CARWSS to Kozhinjampara 1997-98	Fluorosis	6.22	4.67	3.50	2.87	0.96	3.83	dispute with contractor	
RWSS to Venkita Ngu 1998-99	Salinity	2.48	1.49	..	..	..	..	Project not yet started	
Edavilangadu WSS 1998-99	Salinity	3.94	1.97	..	..	..	..	„	
Pudussery RWSS 1998-99	Fluorosis	6.24	3.12	..	..	..	..	„	
RWSS 1998-99 Kodumba Etc.	Fluorosis	9.73	7.30	..	..	..	..	„	
Azhiyoor WSS 1999-2000	Salinity	6.35	4.76	..	..	..	..	„	
Uppalam WSS 1999-2000	Salinity	5.10	3.83	..	..	..	..	„	
Varkedy Phase I 1999-2000	Salinity	3.27	2.45	..	..	..	..	„	
Varkedy Phase II	Salinity	3.61	2.71	..	..	..	..	„	

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The above table shows that eight schemes sanctioned during 1998-2000 were not started as of April 2001. Comprehensive Water Supply Scheme to Alappad, Clappana and Kozhinjampara for controlling salinity and fluoride problems in 46 habitations were sanctioned during 1997-98 at an estimated cost of Rs.13.45 crore to be completed by March 2001. Out of the Central share of Rs.10.09 crore (75 per cent), GOI released Rs.6.21 crore (May 2001). However, KWA could spend only Rs. 3.52 crore as of March 2001. As Central assistance was available only upto March 2001, Central share of Rs. 6.57 crore was thus foregone though the State needed the money for an important scheme meant for the welfare of the rural people.

*7.14.11 Acutely fluoride affected districts ignored:*

A rural population having no safe water source due to acute toxicity such as excess salinity, iron, fluoride or arsenic was to be given first priority for coverage under No Safe Source (NSS) habitations. The Chief Engineer, Investigation, Planning and Design, Kochi in his report on water quality affected habitations in Kerala, identified Alappuzha District as the worst hit district with 53 affected Panchayat wards. Despite this report, no scheme was sanctioned by Government for Alappuzha District as of September 2001. On the other hand Palakkad District which had only 9 affected Panchayat wards, was sanctioned three schemes for fluoride control at Rs. 22.19 crore in January 1998/February 1999/August 1999. According to the National Medical Journal of India (No.3-1999), high fluoride content of drinking water was ascribed for dental fluorosis widely prevalent among the school children in Alappuzha. KWA accepted the audit observation and clarified (September 2001) that three schemes for Alappuzha Districts were under consideration.

*7.14.12 Non-implementation of a IEC project despite advance release of funds*

GOI approved (March 1996) an Information, Education and Communication (IEC) Project for Thiruvananthapuram, Alappuzha and Malappuram districts on a pilot basis at a cost of Rs.1.22 crore to be shared between GOI and State Government on 50:50 basis. First instalment of Rs.30.48 lakh was released by GOI in March 1996. State Government, in anticipation of release of second instalment of GOI share, released the entire project cost amounting to Rs. 1.22 crore in March 1997 to District Rural Development Agency (DRDA), Thiruvananthapuram. The project due to be implemented by March 1998, had not been completed as of May 2001. Expenditure incurred till May 2001 was Rs. 32.07 lakh (26 per cent) and second instalment (Rs.30.48 lakh) was not released by GOI due to non-submission

of utilization certificate by DRDA. District Co-ordination Agencies CDCAs) were to be identified and appointed to carry out the project at district level. DCAs were appointed in Malappuram (March 1999), Alapuzha (November 1998) and Thiruvananthapuram (December 1998). Due to poor performance, DCAs of Malapuram and Alappuzha were replaced in June 2000 and February 2001 respectively. Poor progress in implementation of the project led to lapse of Central assistances of Rs.30.48 lakh besides locking up of Rs. 89.86 lakh with DRDA for more than four years. DRDA attributed the poor progress to treasury restrictions.

*7.14.13 Laxity in control of water borne diseases :*

There were two Quality Control Divisions (QCD) at Kozhikode and Aluva to carry out quality control analysis of water supply schemes. Audit scrutiny of records of QCD, Kozhikode disclosed that quality monitoring of ARWSS was not satisfactory. The Major deficiencies indicated in the Annual Reports were improper dosage of chemicals, improper disinfection, lack of supervision and improper maintenance of machinery, inadequacy/absence of quality monitoring equipment and chemicals and non availability of trained personnel. No test for quality was carried out in 9 out of 30 treatment plants while water was supplied to the public without any quality check in 14 out of 40 distribution points. As per the records maintained by Kozhikode QCD in respect of 20 schemes test checked in audit, coliform bacteria was present ranging from 15 per cent to 100 per cent in samples tested 1999-2000.

*7.14.14 Poor utilization of capacity :*

Test-check of records of QCD, Kozhikode relating to 20 schemes in seven districts revealed that KWA failed in the proper maintenance of four schemes intended to benefit 5.94 lakh population and to ensure that safe water was provided to the population utilizing maximum capacity of the schemes. The details of the schemes are given in Appendix XXXI. Neither KWA nor any outside agency conducted any evaluation study on the status and impact of implementation of ARWSP in Kerala KWA admitted (September 2001) that only a re-survey would reveal the actual status of water supply coverage in habitations.

The above points were referred to Government in July 2001; reply has not been received (October 2001).

[Para 7.14 contained in the Report of the C&AG of India for the year ended 31-3-2001 (Civil)]



Notes on Audit paragraph furnished by Government is given in Appendix II

1. The Committee observed that the Accelerated Rural Water Supply Programme was a full-fledged, centrally sponsored scheme which aimed to cover 9776 inhabitations from 1998-99 to 2000-01. But due to lack of timely action, proper planning and monitoring the central assistance to the tune of Rs.27.89 crore was lapsed. The Committee pointed out that many indispensable schemes could not be fruitfully implemented by the Authority due to various problems associated with the acquisition of land. Certain amount was diverted for the implementation of urban water supply scheme. The Committee remarked that even though the scheme envisaged supply of drinking water only through public taps which meant for the benefit of the weaker section it was seen that majority of the connections were given for domestic and commercial purposes.

2. The Committee observed that out of Central assistance of Rs.104.20 crore, only Rs.76.31 crore was spent, which resulted in a loss of central assistance to the tune of Rs.27.89 crore and wanted to know the reasons for such a mishap. The witness informed that there was slight variation with the figures as the central assistance during that period was Rs.132.64 crore and the amount unspent was Rs.14.63 crore. The Committee opined that this discrepancy should have been pointed out either at the time of local inspection or at the time of giving reply to the draft para. Enquired about this, the witness informed that Central Government would allow certain portion of lapsed amount to be carried over to the next year's allotment and the rest would be treated as lapsed. The witness admitted that certain flaws had crept in the implementation of the scheme. It was interesting to note that the fund earmarked for a particular scheme had been diverted to some other scheme, so as to ensure the appropriation of amount was within the time limit.

3. To a specific question, the witness replied that schemes were being approved by a State Level Empowered Committee and as it was a popular scheme, certain works worth five to six times of the sanctioned amount would be taken up. If any problem crept in, in a particular scheme, the amount would be diverted to some other scheme so that the whole amount could be spread over to all the schemes. Expenditure statement would be forwarded to Central Government in every year and amount would be released in instalments. The witness added that the balance amount was met from various financial institutions like LIC.

4. The Committee enquired why the Kerala Water Authority failed to achieve the target in converting non-covered areas into partially covered/fully covered and partially covered into fully covered. The witness informed that as per the latest statistics, 1 to 10 LPCD per day was available to 1788 habitations, 10 to 20 LPCD per day to 3003, 20 to 30 LPCD per day to 1015 and 30 to 40 LPCD to 791 habitations. The witness added that the Kerala Water Authority was trying to finalise the latest position.

5. The witness admitted that as the amount was not fruitfully utilized, the coverage was not upto the mark. It was advisable that priority should have been given for converting non-covered schemes into partially covered ones. But instead what actually done was that the schemes to convert partially covered into fully covered one were also taken up along with the schemes for converting non-covered into partially covered ones and this obviously created certain problems resulting in the delay in implementation which in turn led to delay in coverage also.

6. To a specific question, the witness disclosed that as projects for Rs.800 crores were already pending completion no new schemes could be taken up by the Authority. Top priority had to be given to complete the projects which were pending for years and for providing drinking water to those areas especially where it was not readily available.

7. To another question, the witness informed that if the amount utilized was less than 80% of the sanctioned one, amount unutilized would be deducted from the succeeding year's grant, and thereby Water Authority could not get the full amount sanctioned for last three to four years. Last year, the entire amount was utilised and also requested to Central Government for allowing additional amount.

8. The witness admitted that certain schemes were delayed due to non-availability of required land even though necessary steps had been taken to provide financial assistance to panchayats, which could not afford to provide land for the schemes. To a pertinent question of the Committee, the witness clarified that land acquisition was not executed properly in the scheme. It was generally expected that local contribution would be made generously in the form of land.

9. The Committee enquired about the details of delayed administrative clearance by various Government departments. The witness informed that clearance from Public Works Department was an indispensable factor. Sanction from the Forest Department was also required, if the schemes requires forest land. Delay in obtaining power connection was also a major hurdle, due to

which many projects were yet to be commissioned. The Committee pointed out that applications for electric connections should be submitted before the commencement of project itself, so as to avoid inordinate delay in obtaining power connection. The witness informed the Committee that sometimes KSEB would receive applications and prepare the estimate only after the completion of the schemes.

10. The Committee desired to be furnished with the details of projects pending for 5 to 15 years and more than 15 years, and the latest position of such projects, highlighting the various steps taken to complete them.

[Details furnished by Government is shown as Appendix III]

11. The Committee pointed out that as the tenders exceeding Rs.1 crore needed prior approval from State Government there occurred a chance for delay in the implementation of such projects. The Committee decided to recommend that the above ceiling should be raised to Rs.5 crore.

12. The Committee observed that as per stipulated norms, 25% and 10% of the ARWSP funds were to be set apart for the benefit of Scheduled Castes and Scheduled Tribes respectively. The Water Authority should release the amount to District Collectors for the implementation of the above schemes. Out of Rs. 69.62 crore released, Rs.17.85 crore could not be drawn due to treasury restrictions. Out of Rs.22.53 crores, Rs.10.48 crore was kept by six District Collectors as unspent balance. The Committee observed this as a serious irregularity on the part of the officials and wanted to know the reason in this regard. The witness informed that instead of 35 per cent, 38 per cent of the funds was released to various District Collectors which was completely utilised. The witness added that the final amount of Rs.22 crore was received in 2003 only. To a vital question, the witness replied that the amount received after March 31 would have to be accounted and released from next year's budget. The Committee desired to be furnished with the details regarding the utilisation of the amount during the years 1995 to 2001.

13. The Committee wanted to know why 2274 domestic and 104 non-domestic water connection were given under ARWSP Scheme which only provided for water supply through public taps. The Committee further enquired the criterion by which such decision was taken, whether it was the own decision of Water Authority or with the prior sanction from Government. The witness informed that as per the provisions of ARWSP Scheme, water should be given only through Public stand taps. If there was sufficient provision after meeting the demand of Public taps domestic and non-domestic connection could also be given on demand from public by which some revenue

could also be accrued to the Authority. The Committee pointed out that possibility of certain element of malpractice could not be ruled out in this case and asked to furnish further details in this regard to the Committee.

14. The Committee observed that the scheme was primarily meant for north Indian villages where people live in clusters. Taking into account of the particular situation prevailing in the state, there was nothing improper in allowing domestic connections under the scheme, provided a decision to this effect was taken by the Authority with prior approval from Government, otherwise it would lead to grave misuse. The Committee also pointed out that there was grave misuse in the sanctioning of domestic connections without proper decision by the Authority.

15. The Committee pointed out that an analysis of 154 schemes out of 515 showed that only 26 schemes were completed as on March 2001 which was just 17% and the cost overrun on these projects worked out to be Rs.17.23 crore. As the schemes were financed by Government of India the cost overrun, if any, should be borne by the State Government. To a specific question of the Committee regarding the present position of the schemes, the witness informed that out of 515 schemes, 386 were completed and 86 were ongoing which required further amount of Rs. 446 crore to complete them.

16. To another question the witness informed the Committee that period of completion of each project was three years. Once the period was over, Central Government would terminate the allotment. Allocation was made for every year and when revised estimate was prepared, the additional cost was normally met from loans from LIC/HUDCO. The Committee desired to be furnished with the details of projects, number of projects commissioned and present position of each project. The witness informed that an Action plan had been chalked out to complete those schemes which were in an advanced stage.

17. The Committee observed that 128 schemes sanctioned by Central Government with an outlay of Rs. 443.45 crore were either kept idle or remained incomplete as on March 2001 and enquired about the present position of the aforesaid schemes. The witness agreed that a detailed statement would be furnished to the Committee. The Principal Secretary, Water Resources Department informed that State Government should furnish the utilization certificate to Central Government on the amount spent on account of ARP Scheme for every year. The Central Government allocation was bulk in nature instead of project wise allocation. The witness added that ARP schemes were implemented by Divisional Executive Engineers and details of physical and financial achievements were available only with them.

18. The Committee observed that ARWS Scheme at Kothakulangara South and Manikkamangalam were started in 1993 at an estimated cost of Rs.1.50 crore and expected to be completed in 1996. But these schemes had not been completed till August 2001 and enquired about the reason for such inordinate delay. The witness informed that the project was delayed mainly due to non-availability of land and delay in the finalisation of tender. The Committee pointed out that even though land was made available in 1998, works relating to treatment plant was taken up only in 2001, ie., after a lapse of three years. The Committee enquired why the tender could not be finalised till 2001 even after inviting tender for three times in 1998. The witness informed that there were no qualified tenderers taken in the first time and in the second time it could not be finalised, for want of required bid capacity as the cost of tender was above Rs. 25 lakh.

19. The Committee pointed out that non-availability of pipes was stated to be one of the reasons for the non-commissioning of project and wanted an explanation in this regard. The witness stated that work agreement was signed only on 13-11-2001. He added that the main complaint was about the purchase of pipes from 1998 onwards and an enquiry was conducted and clearance for centralised purchase was granted only in 2002. This naturally affected all the schemes.

20. The Committee opined that there was unnecessary delay on the part of Kerala Water Authority in finalising schemes and if it was avoided, a huge amount could have been saved. The Committee remarked that a specific period should be fixed for finalising schemes. The witness informed that steps have been taken to complete those schemes in which 75% of work were completed and departmental action had been initiated against the officials who had deliberately delayed in finalising tenders.

21. The Committee observed that ARWS Scheme in Marukil-Maranallur villages in Thiruvananthapuram District at an estimated cost of Rs.1.54 crore which was expected to be completed in 1996, was yet to be completed and wanted to know the reasons for the delay. The Committee further pointed out that there were many problems associated with the acquisition of land and opined that if the Managing Director of KWA could arrange a meeting with District Collector and a notification under 4(1) was issued the delay could be avoided to a certain extent. The witness informed that under ARWS Schemes, land was to be contributed by the respective Local Bodies. The Committee opined that many such schemes were delayed due to delay in acquisition of land.

22. To a specific question, the witness informed that land for the construction of a tank at Thoongapara was yet to be obtained.

23. The Committee wanted to know the present position of ARWS Scheme at Kothakulangara in Ernakulam District costing Rs. 1.94 crores which was expected to be completed in 1996 but not yet completed even after a lapse of five years. The witness informed that all related works except distribution work had been completed.

24. Land for treatment plant and ground level tank had been obtained after inviting tenders for several times. The Committee further observed that the Water Authority had procured pipes worth Rs. 60.59 lakh against the direction issued by the Managing Director in 1993 that top priority to procure pipes for works on source and reservoirs for distribution. When enquired about this, the witness replied that a portion of the pipes was used for the said scheme itself.

25. To another question, the witness informed that estimate for treatment plant and ground level tank had not been sanctioned by the Managing Director, Kerala Water Authority as the proposed site in the Kothakulangara Village was situated in forest land. Hence, the Authority had taken alternate land for the above scheme.

26. The Committee wanted to know whether the pipes worth Rs. 4.11 crore purchased for five ARWS Schemes had been fully utilised. The witness informed that a certain portion of the pipes had been used for Thirumala Scheme. The Committee pointed out that the guarantee period ranged from 1 to 2 years only and premature purchase of pipes exposed KWA/Govt., to the risk of defective supply and loss sustained thereby had to be borne by the Authority/State Government. The witness informed that no such cases had been reported. To another question, the witness informed that central store at Cochin was not computerized and pipes were purchased only for direct delivery at work sight.

27. The Committee enquired why the amount of Rs. 1.13 crore released by the Central Government in 1999-2000 for computerization was not utilised till September 2001. The witness informed that 'Zenith' was the Company recommended by the Central Government for the supply of computers and as it failed to supply the computers in time, purchase was made from 'Keltron'. This was the reason for the delay.

28. The Committee observed that GOI sanctioned an amount of Rs. 10.09 crore for projects on fluoride/salinity control and released an amount of Rs. 6.21 crore. But the Authority spent only an amount of Rs. 3.52 crore till 965/2006.

March 2001, and the balance amount had to be refunded. The witness further informed that the fund was not lapsed and extension of time was requested to Central Government and it was understood that they would reimburse the amount spent on the project. To another question, the witness informed that cost escalation would not be borne by Central Government.

29. The Committee wanted to know why fluoride control scheme was not taken up in Alappuzha District which had 53 worst affected panchayat wards while three such schemes were implemented in Palakkad District which had just 9 fluoride affected panchayat wards. The witness informed that this was due to the fact that there was considerable delay in submitting proposal for the scheme. When enquired about the steps that the Authority had taken to solve the problem of 53 fluoride affected panchayat wards in Alleppey, the witness informed that Kuttanad Water Supply Scheme which was in an advanced stage of completion, would solve the problem to a great extent when commissioned. To meet the drinking water problem in and around Alappuzha the witness informed that there was an augmentation scheme taken up with the aid of bank loan and when the scheme was completed, it would cover the entire Alleppey town and its surrounding areas. To a specific question, the witness admitted that the Water Authority ought to have taken up a scheme in Alleppey, for the fluoride affected area.

30. The Committee enquired about the present position of IEC project for Thiruvananthapuram, Alappuzha and Malappuram Districts. The witness appraised that the scheme was to be implemented by DRDA as a part of total sanitation project. About Rs.50 lakh had been spent on the programme. A unit for capacity development was also in the offing, and the balance amount could also be used for that. The witness added that direction to this effect had been given by the Central Government.

31. The Committee pointed out that quality test was not conducted in 9 out of 30 treatment plants and in 14 out of 40 distribution points, drinking water was supplied without conducting quality test under the purview of quality control division, Kozhikode and wanted to know the reason for the same. The witness admitted that there was lapse on the part of the quality control division and it was the duty of this division to conduct proper surveillance of water supplied by Authority through various schemes. The witness further added that the testing system had considerably improved and testing was being insisted in all districts. The Committee pointed out that the presence of coliform bacteria was from 15 to 100 per cent in samples tested during 1999-2000 and the Water Authority failed miserably to ensure supply of safe drinking water to people. The witness informed that instructions had already been given to conduct strict surveillance and suggestions for further improvements.

32. To a specific question of the Committee, the witness informed that there was facility for quality testing in all districts and testing was done accordingly. The entire state was covered by three quality control divisions - Thiruvananthapuram, Aluva and Kozhikode. The entire supply was divided into five categories depending on the number of consumers and specific testing schedule had also been prescribed for each scheme.

#### **Conclusions/Recommendations**

33. **The Committee is aggrieved to find that during 1998-2001, out of the central assistance of Rs.132.64 crore, an amount of Rs.14.63 crore was lost due to non-utilisation of funds by the Kerala Water Authority. The Committee opines that since ARWS is a cent percent centrally sponsored scheme and allocation is strictly restricted to expenditure incurred by the state, the Authority should have chalked out a well knit plan to utilise the entire allotment within the stipulated period. The Committee is also at pains to note that the amount allotted for providing drinking water to rural masses was lapsed due to unpardonable lethargic attitude of the Authority and opines critically that the reasons for the incident depicts lack of proper scientific planning and co-ordination among various departments by the Authority. The Committee therefore recommends that the Kerala Water Authority should be more conscious and vigilant while implementing centrally sponsored schemes in future so as to avoid the under utilisation of funds which are meant for the needy masses.**
34. **The Committee is astonished to find that there is heavy shortfall in providing pure drinking water to the rural habitations against the target already fixed by the Authority itself. Kerala Water Authority could convert only 310 habitations out of 1148 non covered into partially covered fully covered ones and 1202 out of that 7141 partially covered into fully covered ones. The main reason attributed for this is the delayed administrative clearance by various departments like PWD, Forest Department and Electricity Board. The Committee observes that top priority should be given for providing safe drinking water and projects should not be allowed to drag on for years for want of departmental clearances. The Committee recommends that meetings of departmental heads should be convened at regular intervals in order to sort out problems and directions may be given to the District Collectors so that the subject may be discussed at the bottom level in the Collectors meeting. The Committee further recommends that Water Authority officials should take initiative for necessary clearance at the district level also.**



35. The Committee understands that delay in obtaining power connection is one of the major hurdles faced by the Kerala Water Authority in commissioning many projects. The Committee could understand that KSEB would receive application only after the completion of schemes and would prepare the estimate only after the submission of completion documents. The Committee observes that if an industry has to be started, necessary procedures for obtaining electric connection should be made based entirely on project report. The Committee therefore recommends that the Kerala Water Authority should submit the application for electric connection based on the project report in the beginning itself and KSEB should accept the application and prepare a full fledged estimate so that electric connection can be given without any delay.
36. The Committee also note that at present prior approval of the State Government is required for tenders whose cost exceeds Rs. 1 crore. Much delay is experienced in obtaining clearance for such projects. The Committee therefore, recommends that present ceiling of Rs. 1 crore may be raised to Rs. 5 crore.
37. The Committee is displeased to note that against the guidelines issued by GOI, domestic and non-domestic connections were given by the Water Authority without any criteria. Eventhough ARWSP scheme envisages supply of water only through public stand post and prohibited domestic/non-domestic connections, the Water Authority gave 2274 domestic and 104 non-domestic connections violating GOI guidelines. The Committee opines that by taking account of the particular situation prevailing in the State, there was nothing improper in allowing domestic connection provided a decision to this effect is taken by the Authority with the approval of the Government so as to ensure the elimination of malpractices. The Committee therefore recommends that, in future, the Water Authority should obtain proper sanction from Government when there is a deviation from the prescribed guidelines so as to ensure transparency in the implementation of schemes and to avoid misuse.
38. The Committee is perturbed to learn that many schemes of the Authority drag on for years due to several reasons. The schemes started at Kothakulangara South and Manikkamangalam in 1993 was expected to be completed by September 1996. But the Authority could not finalise the tender even in August 2000. The Committee observes that inordinate delay in the finalization and completion of projects would lead to huge cost overrun besides defeating the very objectives of the schemes. The Committee therefore recommends that Water Authority should chalk out a detailed plan before starting every project and the same should be monitored periodically so as to ensure timely completion of the projects.

39. **The Committee understands that under ARWS scheme, land has to be contributed by respective Local Bodies. The Committee further learns that many schemes are delayed due to delay in acquisition of land and many Local Bodies found it really difficult to provide sufficient land for schemes because of severe financial constraints. The Committee therefore recommends that Government should take it as their responsibility to provide sufficient funds to those Local Bodies which cannot provide sufficient land for the scheme so that it can be implemented without delay.**
40. **The Committee is shocked to find that the Water Authority has foregone an amount of Rs. 6.57 crore as central assistance by way of not implementing the central scheme in time. Government of India sanctioned two Sub Mission Projects during 1997-1998 for controlling excess salinity/fluoride problems which were to be completed in three years. Eventhough Government of India had released Rs. 6.21 crore, the Water Authority could spend Rs. 3.52 crore only leading to the lapse of balance amount The Committee is not at all convinced by the arguments of the witness that the amount had not lapsed and requested the Central Government for extension of time. The Committee observes that the Water Authority should have shown more responsibility in implementing the scheme as the amount is sponsored by Central Government and it deals with the health and welfare of the rural population. The Committee expresses displeasure over the lethargic attitude of the Water Authority in implementing the scheme and recommends that adequate steps should be taken for the timely implementation of Central schemes in future. The Committee wants to know whether the lapsed amount has been released by Central Government as requested by the Water Authority.**

#### AUDIT PARAGRAPH

Against Rs. 11.99 crore released to KWA during 1993-2001 only Rs. 3.26 crore (25 per cent) was spent on the programme. Bulk of unspent funds were retained by KWA. Though Government of India identified 40 problem towns, KWA prepared Draft Project Reports for implementing the programme in nine towns only out of which it commenced the schemes only in three towns. Consequently, intended programme benefits could not reach 4.47 lakh people in those uncovered problem towns and potential Central Assistance of Rs. 22.38 crore was foregone. Even the three schemes launched in 1995-97 progressed at a snail's pace though Rs. 3.24 crore was spent on them against the estimated outlay of Rs. 3.71 crore (for 2 schemes). Implementation of the third scheme, estimated at Rs. 3.42 crore, did not take off (October 2001). Thus, slackness in preparation of project reports and sluggish execution of schemes led to tardy implementation of the programme though funds were not a constraint.

### 7.15.1 Introduction

Accelerated Urban Water Supply Programme (AUWSP) was launched by Government of India in March 1994 to provide safe drinking water in towns with population of less than 20,000 (as per 1991 census) during Eighth Plan (1992-97) with secondary objective of improving the environment, quality of life with a view to improve the socio-economic conditions as well as enhancing productivity to sustain economy of the country. The scheme was financed by GOI and State Government in the ratio 50:50. The scheme was extended to Ninth Plan period (1997-2002). Forty towns in Kerala were identified by GOI for financial assistance under the scheme.

Kerala Water Authority (KWA) is the nodal agency for the overall implementation of this scheme. Secretary, Irrigation (Water Supply) Department was responsible for the over all implementation of the programme. The implementation of the programme during 1993-2001 was reviewed through test check of the records of the headquarters office of KWA, CE (IPD), Deputy CE (Planning & Monitoring), and PH Divisions, Mattannur and Irinjalakuda.

### 7.15.2 Financial outlay and expenditure

(a) The details of allocation by GOI and State Government and expenditure for the period 1993-2001 are given in the table below:

<i>Year</i>	<i>Allocation</i>		<i>Releases</i>		<i>Total funds available with KWA</i>	<i>Expenditure by KWA (percentage of utilisation)</i>	<i>Unspent balance at the end of the year</i>
	<i>Central Share</i>	<i>State Share</i>	<i>Central Share</i>	<i>State Share</i>			
1993-94	28.21	..	..	..	..	..	..
1994-95	37.62	65.00	28.21	65.00	93.21	..	93.21
1995-96	25.00	100.00	..	100.00	193.21	10.50(5.43)	182.71
1996-97	48.00	250.00	59.00	250.00	491.71	42.79(8.7)	448.92
1997-98	64.39	..	..	..	448.92	70.05(15.6)	378.87
1998-99	85.50	100.00	163.89	100.00	642.76	93.11(14.5)	549.65
1999-00	67.69	125.00	67.69	125.00	742.34	55.68(7.5)	686.66
2000-01	127.68	150.00	127.68	112.50	926.84	54.35(5.86)	872.49
Total	484.09	790.00	446.47	752.50	1198.97	326.48	872.49

GOI funds for the scheme was mostly released during 1998-2001 when Rs. 3.60 crore out of the total release of Rs. 4.46 crore was released. Similarly out of the State share of Rs.7.52 crore most of the funds (Rs.3.37 crore) was released during 1998-2001. The pace of utilisation of programme funds was very slow and only Rs. 3.26 crore (25 per cent\_) was spent by KWA against funds received (Rs.11.99 crore). The delay in implementation was attributable to delay in obtaining the land required for the implementation of the scheme from the local bodies. The problem had not been addressed by KWA/ Government seriously.

(b) State Government did not release to KWA Rs. 37.62 lakh received from GOI in 1994-95 for AUWSP, Panniyannur. Further, programme funds (Rs.11.49 crore) were kept in Personal Deposit/Treasury Savings Bank account though GOI instructed to keep AUWSP funds in a separate account.

(c) State Government released (June 1996) the Central grant of Rs.25 lakh (March 1996) as loan to KWA carrying 17 per cent interest Government did not furnish reasons for releasing the Central Grant as loan, nor rectified the mistake (March 2001).

#### *7.15.3 Non coverage of problem towns identified by GOI*

The selection of towns for the implementation of the scheme was to be done by the State Level Selection Committee (SLSC) constituted by Government in July 1995. Out of 40 problem towns identified by GOI in 1991 census SLSC selected only 11 towns upto July 1999.

Preparation and finalisation of detailed project report (DPR) for the selected towns was tardy. Of the 11 towns selected, DPRs were prepared for nine towns only and GOI approved 5 DPRs upto February 2001. Out of these, only three schemes were commenced. Even schemes sanctioned by GOI in 1997 had not been commissioned yet as discussed in sub para 7.15.4. Due to non-selection by SLSC of the remaining towns (129) identified by GOI and non-preparation of DPRs (35 towns) by KWA, implementation of the programme could not be extended to these towns. Consequently, 4.47 lakh people in those problem towns were deprived of safe drinking water and Central Assistance of Rs. 22.38 crore was foregone. Implementation of the programme in more and more identified problem towns was largely dependent on more energetic initiatives on the part of the State Government and speedier resolution of the problem of non-availability of land required for the schemes.

KWA stated (October 2001) that depending on resources and staff available reports for maximum number of schemes possible would be prepared.

#### 7.15.4 Implementation of the scheme

A test-check of 3 schemes out of four taken up by KWA between January 1995 and October 1997 revealed the following irregularities/short comings.

##### (i) AUWSS, Panniyannur

AUWSS to Panniyannur town in Kannur District was sanctioned by GOI in January 1995 at an estimated cost of Rs. 2.34 crore to benefit a population of 19.3 thousand. Land required for construction of well, treatment plant and overhead tank was made available by the local bodies only in December 1996 and October 1997. The detailed estimate for construction of weir has not been prepared as of March 2001.

Works on other components such as a raw water pumping main, clear water pumping main and distribution system were awarded in March 1999, January 1999 and July 1999 with the stipulation to complete the work within one month, three months and six to fifteen months respectively. The firm executing the construction of over head tank stopped work in April 2000 and the balance works has not been re-arranged (May 2001). The work on the intake well-cum-pumphouse, stopped by the contractor in September 1999, has not been re-arranged. Works on the pumping main and distribution system entrusted with 11 contractors had not been completed (May 2001). Pipes costing Rs. 1.55 crore purchased between June 1996 and May 1999 were lying unused. The total expenditure incurred on the scheme was Rs.2.49 crore as of March 2001 against completion of only 20 per cent of the works. The inordinate delay in implementation of the scheme pushed up the estimate to Rs.4.10 crore (revised in August 1998) from Rs.2.34 crore originally estimated. KWA stated (October 2001) that all out efforts were taken to commission the scheme by March 2002.

(b) In the estimate for the AUWSS to Panniyannur, the unit rate for the item "Earth work in trenches to lay pipes – labour charges under the component 'laying clear water pumping main' was incorrectly indicated as per cubic metre" instead of the correct unit rate of 'per 10 cubic metres'. The estimate, therefore, exhibited the inflated cost of Rs. 27.18 lakh for the item instead of the actual value of Rs. 2.64 lakh as computed with reference to unit rate of 'per 10 cubic metres'. Thus, the value of work unjustifiably increased by Rs. 24.54 lakh. Extra liability of Rs. 12.27 lakh was borne by the Central Government. KWA did not furnish details of action taken against the officers for the error in the estimate leading to excess expenditure (May 2001).

(ii) *AUWSS, Pudukkad*

GOI sanctioned AUWSS to Pudukkad town in Thrissur District in August 1996 at an estimated cost of Rs.1.37 crore to benefit a population of 11.7 thousand. This schemes had not taken off even as of March 2001 as the Panchayat did not make available land needed for the scheme. Government had not initiated any action to acquire the required land. However, pipes costing Rs.75.23 lakh had been procured for the scheme between April 1996 and January 1999 by KWA. KWA stated (October 2001) that the scheme would be completed within two years.

(iii) *AUWSS, Koratty*

In October 1997, GOI approved the scheme intended to benefit 16.6 thousand beneficiaries at an estimated cost of Rs.3.42 crore to be implemented within a period of three years. As per the implementation schedule, the scheme was to be commissioned by December 2002. Though land required for the scheme had been acquired in December 1999, works could not be started for want of detailed estimate. KWA stated (October 2001) that work on source has been arranged and that OH tank TP works were at tender stage.

*7.1.5.5 Monitoring and evaluation*

Barring two review meetings (September 1997 and September 2000), the scheme was not reviewed by KWA. Though GOI adversely commented on the tardy implementation of the programme, details of remedial action to speed up implementation were not available. Government did not conduct any evaluation study of the implementation of the programme even after a lapse of seven years.

The above points were referred to Government in July 2001; reply has not been received (October 2001).

[Para 7.15—Contained in the Report of the Comptroller & Auditor General of India for the year ended 31-3-2001 (Civil)]

Notes on Audit Paragraph received from Government is given in Appendix II

41. The Committee observed that even though Government of India identified 40 problem town and released Rs. 11.99 crore, the Water Authority had prepared draft project reports only for nine towns and enquired about the reason for the same. The witness informed that proposal was being drafted every year as per Central Government allocation. Even though projects for nine towns had been submitted, sanction was accorded only for six towns and three were still pending. The witness added that most of the projects could not be completed due to various problems associated including the problem of land. When the Committee pointed out that an amount of Rs. 22.38 crore was lapsed

as central assistance due to under utilization, the witness informed that GOI would release the balance amount of schemes and as such the amount would not be lapsed.

42. The Committee enquired why the central assistance was kept in Personal Deposit/Treasury Savings Bank account against GOI directions, the witness informed that the amount was transferred into TSB account after obtaining Government clearance and this was the usual procedure.

43. The Committee pointed out that State Government had released the Central Grant of Rs.25 lakh to the Authority @ 17 per cent interest and opined that it was totally unfair. The witness informed the Committee that Government had been addressed to rectify this. To a specific question of the Committee, the witness informed that the AUWSS Panniyannur had been commissioned. When enquired about the present position of AUWSS Pudukkad the witness informed that the scheme was delayed due to problem associated with land and Authority took alternate land to erect the plant. The witness added that the work was in progress. To a specific question, the witness informed that the work of the Koratty Water Supply Scheme was progressing.

44. The Committee pointed out that Government did not conduct any evaluation study of the implementation of the programme even after a lapse of seven years barring two review meetings and wanted an explanation in this regard. The witness replied that review meetings were conducted periodically and there was a State Level Committee to select new schemes. The witness added that special attention was paid to find out the reasons for cost escalation and delay in completion of the projects.

45. To a specific question, the witness stated that if there was considerable delay in the completion of a project, monthly review meetings were conducted by the Managing Director, Chief Engineer and Technical Member to examine such cases and sort out the issues.

#### **Conclusions/Recommendations**

46. **The Committee learns with displeasure that the Water Authority has foregone crores of rupees as central assistance under AUWSP due to underutilisation of funds. Though Government of India had identified 40 towns, KWA could prepare project report just for nine towns only and out of this, schemes, were started only in three towns; which were yet to be completed. The Committee also notes that out of Rs.11.99 crore received during 1993-2001, the Water Authority could spend Rs. 3.26 crores only. At the time of evidence it was informed that non-availability of land is one of the most important hurdle in the implementation of schemes undertaken by the Water Authority. But it is surprising to note that the problem has not**

been seriously taken by the Water Authority nor taken to Government for a speedy solution. The Committee expresses its anguish over such a state of affair and recommends that KWA should try to solve all problems associated with the implementation of schemes including land with necessary help from Government.

47. The Committee is not at all satisfied with the action of State Government in releasing the central grant of Rs.25 lakh as loan to KWA carrying 17 per cent interest. The Committee recommends that the above action should be rectified and the fact intimated to the Committee.

48. The Committee is shocked to learn that the scheme is not reviewed by KWA and Government except on two occasions and has not conducted on evaluation even after a lapse of seven years. It is even more surprising that GOI adversely commented on the tardy implementation of scheme and the Water Authority did not initiate any arrangements for the periodical review and evaluation. The Committee believes that had the review been conducted periodically central assistance amounting to crores of rupees could not have been lapsed and programme could have been implemented in a better way. The Committee therefore recommends that KWA should evolve a suitable mechanism for proper monitoring and timely evaluation of projects. Hence the working of Kerala Water Authority should be restructured for its effective functioning.

#### AUDIT PARAGRAPH

##### *Unnecessary borrowing from Life Insurance Corporation for implementation of water supply schemes*

Kerala Water Authority (KWA) raises loans from financial institutions like LIC, HUDCO, etc to finance implementation of its various on-going as well as new schemes. During March 1992 to March 2000, KWA borrowed Rs.14.26 crore from Life Insurance Corporation of India (LIC) for 11 schemes intended to supply water to 12 villages and two towns. None of the schemes has been completed as of May 2001. Meanwhile KWA had to cough out Rs. 6.33 crores (March 2001) towards interest on funds borrowed from LIC Details are given below:

(i) Government sanctioned eight schemes of KWA, i.e. three Rural Water Supply Scheme (RWSS) each in March 1996 (Rs.23.66 crore) and March 1997 (Rs.17.45 crore), one in March 2000 (cost Rs. 6.50 crore) and the Urban Water Supply Scheme (UWSS) to Feroke Town (cost Rs.8.40 crore) in March 1997. Government also approved the proposal of KWA to raise loans from LIC for the schemes. Accordingly Rs.11.78 crore bearing interest at 13 per cent was borrowed from LIC during March 1996—March 2000. KWA took possession



of 3.44 hectares of land at a cost of Rs.27.17 lakh between March 1998 and December 1998 for the common components in these schemes. According to the time schedule formulated by the Chief Engineer (CE), Northern Region, implementation of the various components of the schemes was to be commenced in October 1997 and completed by December 2001. However, tenders for the work were not finalised (May 2001) due to irregularities in the tender procedure and decision (April 1999) of Government of re-tender. Government has not accorded approval to award the work, based on the re-tender in November 1999 as of June 2001. Thus the schemes were languishing for five years even though land and money was available. Pipes worth Rs.6.71 crore purchased between May 1999 and July 2000 remained idle.

Thus Chief Engineer's failure to arrange execution of the works led to non-implementation of the schemes despite availability of land and funds. However KWA paid (March 2001) interest of Rs.4.55 crore on LIC loans for the schemes.

(ii) For an Accelerated Rural Water Supply Schemes to Kottappady village (estimated cost of Rs.53 lakh) sanctioned in 1985, a concrete weir (cost Rs.10.78 lakh) and distribution lines for 30 Km (cost Rs.50.10 lakh) were completed in March 1989. Intake arrangement, but for which the scheme would be non functional, was however, not executed as land for construction of source was not made available by the Grama Panchayat. No other component of the scheme was also completed as of May 2001. Total expenditure on the scheme incurred upto March 2001 was Rs.69.41 lakh.

Though implementation of the scheme was at a stand-still since March 1989, MD, KWA revised the estimate to Rs.2.08 crore in March 1992 and raised a loan of Rs.58 lakh from LIC in March 1992. During last 9 years there was no improvement in the matter of acquiring land. Thus, raising of loan was unjustified and premature and led to avoidable payment of interest of Rs.57.88 lakh upto January 2001 without any benefit. The burden of unnecessary interest payment would increase if the funds were not put to productive use immediately. For this, however, there was no scheme in hand with KWA.

(iii) For implementation of two Water Supply Schemes to Methala Town and Eriyad Village in Thrissur District at an estimated cost of Rs.9.93 crore and Rs.5.95 crore respectively, KWA obtained loan of Rs.1.90 crore from LIC in March 1996. However, even after five years since the sanction of schemes, in March 1996, major components of the schemes (well-cum-pump house, treatment plant, pumping and gravity main, OH tank, clear water sumps

and distribution system etc.) had not been started (May 2001) due to delay in completion of soil investigation, non-obtaining of land from the Panchayat and procurement of pipes. As of January 2001 KWA paid Rs.1.20 crore to LIC as interest on the loan which was not put to any productive use.

The above points were referred to the Secretary to Government in July 2001, reply has not been received (October 2001).

[Para 7.16—Contained in the Report of C&AG of India for the year ended 31-3-2001 (Civil)]

Notes on Audit paragraph furnished by Government is given in Appendix II

49. The Committee enquired about the non-utilization of Rs.14.26 crore which the Kerala Water Authority borrowed from financial institutions from March 1992 to March 2000 and remained unutilized till May 2001 which led to a payment of Rs.6.33 crore as interest. The witness replied that LIC would give only 40% of the total estimate and balance should be supplemented by State Government. In this circumstance, the Authority was forced to divert the fund for the completion of certain other projects also. As such, funding by LIC was not an attractive source, the witness added. The rate of interest charged by them was 13% which was subsequently reduced to 10.5%.

50. To another question, the witness informed that loan from LIC had been availed for 397 schemes, and out of this 279 schemes had been completed. It was also stated that 118 schemes were pending and a sum of Rs. 989.88 crore was needed to complete them. To a specific question of the Committee, the witness informed that about 22% of the total estimate was needed for administrative expenses.

### **Conclusion/Recommendation**

**No Comments.**

Thiruvananthapuram,  
17th October, 2006.

MANKODE RADHAKRISHNAN,  
*Chairman,*  
*Committee on Public Undertakings.*

## APPENDIX I

**Summary of Main Conclusions/Recommendations**

<i>Sl. No.</i>	<i>Para No.</i>	<i>Department Concerned</i>	<i>Conclusions/ Recommendations</i>
(1)	(2)	(3)	(4)
1.	33	Water Resources Department	<p>The Committee is aggrieved to find that during 1998-2001, out of the Central Assistance of Rs. 132.64 crore, an amount of Rs. 14.63 crore was lost due to non-utilisation of funds by the Kerala Water Authority. The Committee opines that since ARWSP is a cent per cent centrally sponsored scheme and allocation is strictly restricted to expenditure incurred by the state, the Authority should have chalked out a well knit plan to utilise the entire allotment within the stipulated period. The Committee is also at pains to note that the amount allotted for providing drinking water to rural masses was lapsed due to unpardonable lethargic attitude of the Authority and opines critically that the reasons for the incident depicts lack of proper scientific planning and co-ordination among various departments by the Authority. The Committee therefore recommends that the Kerala Water Authority should be more conscious and vigilant while implementing Centrally Sponsored Schemes in future so to avoid the under utilization of funds which are meant for the needy masses.</p>

(1)	(2)	(3)	(4)
2.	34	Water Resources Department	<p>The Committee is astonished to find that there is heavy shortfall in providing pure drinking water to the rural habitations against the target already fixed by the Authority itself. Kerala Water Authority could convert only 310 habitations out of 1148 non covered into partially covered fully covered ones and 1202 out of that 7141 partially covered into fully covered ones. The main reason attributed for this is the delayed administrative clearance by various departments like PWD, forest department and Electricity Board. The Committee observes that top priority should be given for providing safe drinking water and projects should not be allowed to drag on for years for want of departmental clearances. The Committee recommends that meetings of departmental heads should be convened at regular intervals in order to sort out problems and directions may be given to the District Collectors so that the subject may be discussed at the bottom level in the Collectors meeting. The Committee further recommends that Water Authority officials should take initiative for necessary clearance at the district level also.</p>
3.	35	,,	<p>The Committee understands that delay in obtaining power connection is one of the major hurdles faced by the Kerala Water Authority in</p>

(1)	(2)	(3)	(4)
			<p>commissioning many projects. The Committee could understand that KSEB would receive application only after the completion of schemes and would prepare the estimate only after the submission of completion documents. The Committee observes that if an industry has to be started, necessary procedures for obtaining electric connection should be made entirely on project report. The Committee therefore recommends that the Kerala Water Authority should submit the application for electric connection based on the project report in the beginning itself and KSEB should accept the application and prepare a full fledged estimate so that electric connection can be given without any delay.</p>
4.	36	Water Resources Department	<p>The Committee also note that at present prior approval of the State Government is required for tenders whose cost exceeds Rs. 1 crore. Much delay is experienced in obtaining clearance for such projects. The Committee therefore, recommends that present ceiling of Rs. 1 crore may be raised to Rs. 5 crore.</p>
5.	37	,,	<p>The Committee is displeased to note that against the guidelines issued by GOI, domestic and non-domestic connections were given by the Water Authority without any criteria. Even though ARWSP scheme envisages</p>

(1)	(2)	(3)	(4)
			supply of water only through public stand post and prohibited domestic/non-domestic connections, the Water Authority gave 2274 domestic and 104 non-domestic connections violating GOI guidelines. The Committee opines that by taking account of the particular situation prevailing in the State, there was nothing improper in allowing domestic connection provided a decision to this effect is taken by the Authority with the approval of the Government so as to ensure the elimination of malpractices. The Committee therefore recommends that, in future, the Water Authority should obtain proper sanction from Government when there is a deviation from the prescribed guidelines so as to ensure transparency in the implementation of schemes and to avoid misuse.
6.	38.	Water Resources Department	The Committee is perturbed to learn that many schemes of the Authority drag on for years due to several reasons. The schemes started at Kothakulangara South and Manikkamangalam in 1993 was expected to be completed by September, 1996. But the Authority could not finalise the tender even in August, 2000. The Committee observes that inordinate delay in the finalization and completion of projects would lead to huge cost overrun besides defeating the very objectives of the schemes. The

(1)	(2)	(3)	(4)
			Committee therefore recommends that Water Authority should chalk out a detailed plan before starting every project and the same should be monitored periodically so as to ensure timely completion of the projects.
7.	39	Water Resources Department	The Committee understands that under ARWS scheme, land has to be contributed by respective Local Bodies. The Committee further learns that many schemes are delayed due to delay in acquisition of land and many Local Bodies found it really difficult to provide sufficient land for schemes because of severe financial constraints. The Committee therefore recommends that Government should take it as their responsibility to provide sufficient funds to those Local Bodies which cannot provide sufficient land for the scheme so that it can be implemented without delay.
8.	40	,,	The Committee is shocked to find that the Water Authority has foregone an amount of Rs. 6.57 crore as Central Assistance by way of not implementing the central scheme in time. Government of India sanctioned two Sub Mission projects during 1997-98 for controlling excess salinity/fluoride problems which were to be completed in three years. Even though Government of India had released Rs. 6.21 crore.

(1)	(2)	(3)	(4)
			<p>the Water Authority could spend Rs.3.52 crore only leading to the lapse of balance amount. The Committee is not at all convinced by the arguments of the witness that the amount had not lapsed and requested the Central Government for extension of time. The Committee observes that the Water Authority should have shown more responsibility in implementing the scheme as the amount is sponsored by Central Government and it deals with the health and welfare of the rural population. The Committee expresses displeasure over the lethargic attitude of the Water Authority in implementing the scheme and recommends that adequate steps should be taken for the timely implementation of Central schemes in future. The Committee wants to know whether the lapsed amount has been released by Central Government as requested by the Water Authority.</p>
9.	46	Water Resources Department	<p>The Committee learns with displeasure that the Water Authority has foregone crores of rupees as Central Assistance under AUWSP due to underutilisation of funds. Though Government of India had identified 40 towns, KWA could prepare project report just for nine towns only and out of this, schemes, were started only in three towns; which were yet to be completed. The Committee also notes that out</p>



(1)	(2)	(3)	(4)
			<p>of Rs. 11.99 crore received during 1993-2001, the Water Authority could spend Rs. 3.26 crores only. At the time of evidence it was informed that non availability of land is one of the most important hurdle in the implementation of schemes undertaken by the Water Authority. But it is surprising to note that the problem has not been seriously taken by the Water Authority nor taken to Government for a speedy solution. The Committee expresses its anguish over such a state of affair and recommends that KWA should try to solve all problems associated with the implementation of schemes including land with necessary help from Government</p>
10.	47	Water Resources Department	<p>The Committee is not at all satisfied with the action of State Government in releasing the central grant of Rs. 25 lakh as loan to KWA carrying 17 per cent interest. The Committee recommends that the above action should be rectified and the fact intimated to the Committee.</p>
11.	48	,,	<p>The Committee is shocked to learn that the scheme is not reviewed by KWA and Government except on two occasions and has not conducted an evaluation even after a lapse of seven years. It is even more surprising that GOI adversely commented on the tardy implementation of scheme and the Water Authority did not initiate any</p>

(1)	(2)	(3)	(4)
			<p>arrangements for the periodical review and evaluation. The Committee believes that had the review been conducted periodically central assistance amounting to crores of rupees could not have been lapsed and programme could have been implemented in a better way. The Committee therefore recommends that KWA should evolve a suitable mechanism for proper monitoring and timely evaluation of projects. Working of Kerala Water Authority should be restructured for the effective functioning of it.</p>

## APPENDIX II

**Notes furnished by Government on the Audit Paragraphs**

<i>Paragraph No.</i>	<i>Reply</i>
(1)	(2)
7.14.1 7.14.2	<p>KWA received Rs. 132.64 Crores during the years 1998-99, 1999-2000 and 2000-01 from GOI for the execution of ARWSP schemes. During these years, an expenditure of Rs. 117.38 Crores was incurred. The shortfall in expenditure was Rs 15.26 Crores. Taking into account the opening balance as on 1-4-1998 and amount allowed to be carried over on 31-3-2001, GOI had disallowed Rs. 14.63 Crores during the said period and not Rs. 27.89 Crores as pointed out by the Audit. The year wise statement is given as Annexure I.</p> <p>The reasons for the low expenditure of ARWSP schemes is detailed as reply to para 7.14.6</p>
7.14.3	<p>In addition to the ARWSP schemes several other schemes including some major schemes are under execution in various parts of the State. A habitation would be termed as Fully Covered or Partly Covered only after all the schemes servicing the habitation are fully commissioned. Hence the coverage in terms of the number FC or PC habitations would be more when the other schemes under execution are also commissioned. Further, the coverage of habitations through the Water Supply Schemes implemented by the local bodies is not included in the coverage reported by KWA. Hence the actual coverage would be much more than the reported level and the exact coverage would be known only if a survey is conducted.</p>
7.14.4	<p>During the years 1995-96 to 2000-01 GOI had released Rs. 23,072 lakhs for the implementation of ARWSP schemes. Out of this, Rs. 20,446.99 lakhs was for the implementation of Water Supply Schemes and the balance amount was for Operation &amp; Maintenance of ARWSP schemes as well as for project monitoring. Out of Rs, 20,446.99 lakhs, Rs. 6962.00 lakhs was released to the</p>

(1)	(2)
7.14.5	<p data-bbox="613 470 1256 674">District Collectors for the implementation of SCP and TSP schemes and Rs 839.93 lakhs was spent directly by KWA for SCP and TSP schemes. Thus the total expenditure for SCP and TSP schemes was Rs. 7801.93 lakhs, which constituted 38.16% and is more than the stipulated percentage of 35%. Hence there was no diversion of fund by KWA.</p> <p data-bbox="613 690 1256 777">The District Collectors have encashed the full amount of Rs. 6963 Lakhs released to them till 31-3-2001 from the treasury.</p> <p data-bbox="613 793 1256 852">Rs. 11.22 Crores was released by GOK to KWA in 2003-04 vide order no 1253/2003/WRD dated 8-10-2003.</p> <p data-bbox="613 869 1256 928">District Collectors have been requested to utilize the full amount and submit the Utilisation Certificates.</p> <p data-bbox="613 945 1256 1031">Domestic and non-domestic connections were given from some of the ARWSP scheme due to the following reasons:</p> <p data-bbox="667 1047 1256 1220">Several ARP schemes could not be completed with the financial assistance under ARWSP alone due to cost overrun. As further funds would not be available under ARWSP, these schemes were completed with the funds from the State Government and/or from LIC</p> <p data-bbox="667 1236 1256 1440">As per the ARWSP guidelines, the schemes were to be maintained by the local bodies, but due to their incapability, KWA continue to maintain these projects and attend to their repairs and maintenance. House connections generate some revenue, which is essential to meet the cost of repairs and maintenance of schemes.</p> <p data-bbox="667 1457 1256 1543">When there is sufficient water in the system, it is also not practical to deny requests from the public for house connections.</p> <p data-bbox="613 1560 1256 1680">It is also to be pointed out that whenever house connections were given, it was ensured that the flow in the street taps were not affected and the public using the taps do not suffer.</p>

(1)	(2)
7.14.6	<p data-bbox="613 470 1265 558">There were cost and time over-runs in the execution of the ARWSP owing to the following reasons. This has also resulted in shortfall in expenditure.</p> <p data-bbox="667 573 1265 1020">Lands required for the schemes were not surrendered to the KWA (which were promised by the local bodies to be surrendered free of cost at the time of preparation of DER of the Schemes). Land acquisition is a time consuming process, which upsets the target dates fixed for completion of schemes. This is the major bottleneck in the execution of schemes since the estimates could be prepared only after the land was obtained and soil investigations were done. There are 17 schemes under ARWSP, which could not be started due to non-availability of lands. KWA has taken measures to solve the land acquisition problem by creating a Revolving Fund, which can be utilized by the local bodies for land purchases.</p> <p data-bbox="667 1035 1265 1241">The execution of a water supply scheme is not an activity involving KWA alone. It is dependent on PWD (for laying pipelines along roads, asphalt cutting etc), panchayats, KSEB (for power connection) etc. Despite earnest effort taken by KWA, the delay in other departments has delayed the completion of the scheme.</p> <p data-bbox="667 1255 1265 1402">If a scheme gets delayed for any reason, the costs get inflated and as the GOI does not sanction revision in estimates, these schemes are to be posed to other agencies to continue the works. This causes further delay.</p> <p data-bbox="613 1417 1265 1684">The delays were due to the unavoidable reasons as mentioned above. It is also pertinent to note that KWA had so far completed and commissioned 386 schemes out of the 519 schemes taken up under the ARWSP. 86 schemes are in various stages of completion. The remaining schemes are continuing with State Plan Funds or with the assistance from financial institutions, as these schemes have become not eligible under ARWSP due to cost and time overrun.</p>

(1)	(2)
7.14.7	<p>As pointed out in the audit, the work on TP was delayed due to non-availability of required land. Subsequently the land was received and work on TP was tendered on 29-7-1998. However there were no takers for the tender document. Then the work was retendered on 15-10-1998, 3 nos. tender documents were sold, but no one had submitted their offer. The work was again re-tendered the third time on 16-12-1998. However the tenderers who had submitted the tender did not have the required bid capacity.</p> <p>The estimate was revised according to the new schedule of rates and the work was again re-tendered on 29-8-2000. The work was awarded and agreement executed with contractor on 13-11-2001. The work was fully completed on 28-3-2003.</p> <p>The source was the existing well cum pump of Angamaly WSS.</p> <p>The Raw Water Pumping Main and Clear Water Pumping Main were completed and charged on 4/2003. Work on Raw Water Pump Set and clear Water Pump set were completed on 2/2003 and trial run was taken in 4/2003.</p> <p>Distribution of 80 km. was laid and 40 km. is charged thereby benefiting a population of 20000.</p> <p>The total expenditure as on 31-5-2004 is Rs. 315.28 lakhs.</p> <p>Government of India provides funds for the Accelerated Rural Water Supply Schemes and the land for the scheme is provided by panchayat free of cost. In the case of the said scheme, the land for two Ground Level Reservoirs and one Over head Reservoir had to be provided by the panchayat. The Panchayats were addressed for surrendering the land as early as 1994.</p> <p>Out of this, only the site for the two GL reservoirs has been surrendered by the panchayat in 1997 and the construction of the reservoir had already been completed. It is expected that the land for the OH reservoir at Thoongampara will also be surrendered by the panchayat at the earliest.</p>

(1)	(2)
	<p>Presently, the works of laying conveyance main and distribution system are progressing well. The scheme under reference can be commissioned on completion of a common treatment Plant at Kalippara for which the work was started in May 2004 and will be completed by September 2005.</p> <p>The source of the scheme is common to three other schemes and the completion of the source will take two more years. As a temporary arrangement, partial commissioning was done by pumping water from existing RWSS to Maranalloor.</p> <p>Tender for work on Intake Well cum Pump House was invited on four occasions, but could not be finalised as the rate quoted was considerably high. Then the estimate was recasted on the basis of 1999 schedule of rates and tendered on 17-1-2001. The work was awarded and the contractor agreement executed on 24-12-2001. The work commenced on 12-2-2002 and completed on 26-10-2002.</p> <p><i>Treatment plant:</i> The original land proposed for construction of Treatment Plant was forest land. As it was very difficult to obtain Government land by observing Central Government formalities, this proposal was changed to a high hill adjacent to Plantation Compound as per the suggestion of the Panchayat Authorities. This was accepted by IPD wing on 16-11-1995 and the land was taken possession on 24-11-1997.</p> <p>Slow sand filter of capacity 2.6 MLD was proposed to be constructed for Rs. 130 lakhs. As there is no proper access to the site and materials have to be conveyed manually, the higher authorities had directed to install pressure filter instead of slow sand filter for partially commissioning the scheme. Tender for procuring Pressure Filter is under scrutiny</p> <p><i>GL Tank:</i> G.L. tank has already been completed on 2/2004.</p>

(1)	(2)
	<p><i>Pumping main</i> : In the original proposal pumping main was 200 mm AC class 20 for a length of 2580 metre. But due to change of site of Treatment Plant, length of pumping main had been increased by 600 metre. As the alignment is along rocky portion, 800 m. of the pipe had to be changed to 200 mm. C.I class LA. Due to non availability of pipe, pumping main could not be completed. However, 2300 m. is already laid.</p> <p><i>Distribution System</i> : As per project, 95 km of distribution line had to be laid, out of which 6500 m A. C pipe had been already laid. 3.5 fon of A.C pipe was procured vide order No. KWA/JB/MMU/2001/2000 AC/A Infra dated 16-8-2003. The work for laying A.C pipes is to be arranged. 85 Km. of various sizes of PVC pipe have to be arranged for which supplying and laying proposal is under scrutiny.</p> <p><i>Raw water pumpsets</i> : Procurement of raw water pumpsets are also under scrutiny.</p> <p>The scheme can be commissioned by 3/05.</p>
7.14.8	<p>Generally pipes form about 60% of the expenditure of any water supply scheme. As the procurement of pipes would take considerable time, it is the normal practice to place supply order for the required pipes fairly in advance.</p> <p>Schemes to Edakode, Iroopara and Kazhakkoottam-Menankulam were sanctioned as per Administrative Sanctions dated 2-5-1998 and 16-2-1999. 7800 m of 450mm CI pipes were required for the pumping main of these projects. During the period 7/99 to 9/99, 5300m of 450 mm. CI class B pipes were received, of which, 2200 m were for an urban scheme, namely Interim Augmentation to Thirumala zone. It was then noted that the budget provision for this Urban Water Supply Scheme was not sufficient to make the payment and as the pipes were not immediately required for that scheme. However, the full quantity of pipes was required for ARP schemes. Hence, the cost of 5300 mm pipes was booked under ARWSP, where sufficient budget provision and funds were available.</p>



(1)	(2)
7.14.9	<p>The CI pipes were subjected to pre-delivery tests at factory and generally are not susceptible to any damage on storage.</p> <p>In December 1999, GOI released Rs.1.13 Crores for computerization activities in state. KWA had requested clarification from GOI for utilizing the amount of Rs.1.13 Crores. Clarification has since been obtained from GOI</p> <p>Computers worth Rs.1.13 Crores has been purchased on 31-3-2003 and Rs.1.13Crores has been utilised.</p>
7.14.10	<p>KWA has taken 10 schemes under Technology Mission for flouride / salinity affected areas. There are three schemes in flouride affected areas and seven schemes in salinity affected areas.</p> <p>1. <i>ARWSS to Kozinjampara and adjoining villages:</i></p> <p>All civil works completed and the schemes has been partially commissioned. Unfortunately the availability of water in the Chitturpuzha was considerably reduced, as there was no let down water from Parambikkulam-Aliyar project. Hence the charging of the pipe line could not be made before 3/2004. Now sufficient water is being received at source due to the summer rain in 5/2004 and the charging of the pipe line has commenced and is expected to be completed by 6/2004. The scheme could be commissioned by 30-6-2004. Total expenditure of the scheme is Rs. 537.21 lakhs.</p> <p>2. <i>ARWSS to Pudussery and adjoining villages :</i></p> <p>All the works being arranged and the cumulative expenditure as of date is 42.70 lakhs.</p> <p>3. <i>ARWSS to Kodumba, Polpully and adjoining villages :</i></p> <p>In take well-cum-pump house and leading channel arranged and work is in progress.</p> <p>4. <i>CWSS to Alappad and Clappana villages in Kollam :</i></p> <p>This scheme is linked with WSS to Oachira and hence can be implemented only after taking up the common components. There was a legal dispute on the land</p>

(1)	(2)
	<p>required for Oachira scheme which has been sorted out. Hence the Alappad Clappana scheme can be resumed and implemented without further delay. Total expenditure is Rs. 86.14 Lakhs.</p> <p>5. <i>RWSS to Vorkady and adjoining villages phase I in Kasargod districts :</i></p> <p>(1) Well 50 % completed.</p> <p>(2) Service reservoir completed, BP tank 90 % completed and other components in progress.</p> <p>Total expenditure is Rs. 17.20 lakhs.</p> <p>6. <i>RWSS to Vorkady and adjoining villages Phase II in Kasargode districts :</i></p> <p>All the lands are received. Work will be commenced at the earliest.</p> <p>7. <i>ARWSS to Uppala and adjoining villages in Kasargod district:</i></p> <p>(1) Well work started.</p> <p>(2) Service reservoir completed and other components in progress. Total expenditure is Rs. 71.88 lakhs.</p> <p>8. <i>RWSS to Azhiyoor and adjoining villages in Koihikhode district :</i></p> <p>Deviation proposal approved. Work will be commenced at the earliest. Total expenditure is Rs. 0.12 lakhs</p> <p>9. <i>WSS to Edavilangu, Azhikkodu and adjoining villages in Thrissur district :</i></p> <p>Work in progress. Total expenditure is Rs. 5.56 lakhs.</p> <p>10. <i>WSS to Venkitangu and adjoining villages in Thrissur district:</i></p> <p>(1) OH tank completed.</p> <p>(2) Distribution system 70 % completed.</p> <p>Total expenditure is Rs. 103.26 lakhs.</p>

(1)	(2)
	<i>Loss of central assistance of Rs. 6.57 crores :</i>
	Out of central share of Rs. 10.09 crores sanctioned for the two schemes, Govt. of India has released Rs. 6.21 crores. As on March, 2004, Rs. 4.68 crores has been utilized. The work on the scheme is in progress and it is expected that the amount will be fully utilized. KWA has requested Govt. of India to extend the time of completion.
7.14.11	The observation of the Audit that no scheme for fluoride control was sanctioned for Alappuzha district is not correct. Of the three schemes considered for the District, Kuttanad Water Supply Scheme under the RGNDWM Technology Mission for an estimated cost Rs. 6.135 crore was taken up and the same is in progress. Augmentation of WSS to Alapuzha is also under implementation. With the commencing of this scheme whole the fluoride affected area will be covered.
7.14.12	<p>An amount of Rs. 121.93 lakhs was available for the implementation of IEC Campaign in Thiruvananthapuram, Alappuzha and Malappuram districts. The total expenditure so far is only Rs. 49.65 lakhs. The reasons for delay in incurring expenditure are given below:</p> <p>(a) Implementation of IEC is a slow process as it aims at bringing about permanent change in people's attitude and behaviour. Helping people change behaviour would mean community participation in deciding which behaviours it wants to work on changing and which sanitation options are most appropriate to its needs and participatory approach involves a wide range of stakeholders and longer time frame. The main strategy for improving sanitation in poor communities is community mobilization and sustained campaign to promote awareness of the consequence of poor sanitation. In other words, neither expenditure nor subsidy will succeed in increasing sanitation coverage unless perceptions and behaviour relating to sanitation are changed. Accordingly Government appointed a Task Force to recommend a strategy for successfully grounding the IEC Campaign. The Task Force</p>

(1)	(2)
	<p>submitted its report in February 1998. Moreover the preparatory activities like strategy formulations, developing training and campaign materials and setting up organizational structures had to take time.</p> <p>(b) As per the Government of India pattern appointment of paid co-ordination is envisaged at the Block level. Likewise there was a provision for appointing 2488 motivators (ward level) and giving them honourarium @ Rs.100 per month for 4 months and Rs.100 as TA and DA (Rs.500 per motivator). However in view of the availability of voluntary workers in the state it was decided to carryout the campaign by using services of volunteers and social activists. No monitoring incentive was paid under IEC Programme for fear that between it would deter the prevailing voluntarism in the social service sector. An amount of Rs.23.4 lakhs was set apart for payment of honorarium of Block Co-ordinators and also for meeting establishment cost. So also an amount of Rs.12.44 lakhs was earmarked for local level expenses for motivators. These amounts were not expended due to the decision to rely on voluntary workers. Thirty volunteers per Grama Panchayat were identified for working Health Production Team (HPT). They were trained and the IEC Campaign at the grass root level was carried out through the HPT. Similarly the guidelines permitted for payment of incentive @ Rs.25 per new latrine constructed to anganwadi workers. However previous experience was that monetary incentive of any kind would only decelerate community based programmes and that voluntarism and activism should be the prime mover of this campaigns. Hence it was decided that the incentive for construction of latrines need not be paid. During the campaign period 39000 new household latrines were constructed in the three districts. There was a savings of Rs. 9.75 lakhs due to the non payment of incentives @ Rs. 25 per latrine.</p> <p>(c) The restrictions in treasury transactions also led to poor financial progress. However the IEC Campaign in the 3 districts were effective. In the year 2001</p>

(1)	(2)
	<p>these districts prepared projects for Total Sanitation Campaign (TSC) for assistance from Government of India. TSC projects have been sanctioned in the districts. IEC is a component activity of TSC and 15% of project funds are earmarked for the purpose. Therefore there is no need to continue the separate IEC project. Now Government of India have indicated that the unspent balance under IEC may be transferred to the State Level Communication and Capacity Development Unit (CCDU) for water and sanitation. Action has been taken to finalise audit of accounts of IEC funds and to transfer the balance amount to CCDU.</p>
7.14.13	<p>During the period of audit, due to inadequacy/absence of quality monitoring equipments and non-availability of trained personnel, the activities of the division was limited, as pointed out in the audit para. Now, the division has been geared up. The division has during the previous year analyzed 933 samples from the 700 schemes belonging to the A,B,C,D &amp; E categories. Out of 30 Treatment Plants, 60 inspections were carried out.</p>
7.14.14	<p>For improving over all maintenance of various water supply schemes and to assure water quality as per Bureau of IS, following suggestions were given to the concerned Executive Engineers of the Operation and Maintenance wing—</p> <ol style="list-style-type: none"> <li data-bbox="646 1234 1260 1318">(1) EE must inspect the plant frequently and see that suggestions regarding the inspection of quality control wing are carried out.</li> <li data-bbox="646 1329 1260 1497">(2) All parameters, namely PH Value, Turbidity of raw water and treated water, bacteriological test and residual chlorine of water should be checked every day. Jar test should be conducted and dosage of chemicals should be fixed in all Rapid Sand Filter. wherever necessary.</li> <li data-bbox="646 1507 1260 1560">(3) Sampling and testing should be arranged from the distribution point daily.</li> </ol> <p>The actual status of water supply coverage in habitations can be revealed only if a re-survey is conducted. Hence KWA is conducting a re-survey with 2001 censuses. The data is under compilation.</p>

ANNEXURE 1

DETAILS OF ARP RELEASE AND EXPENDITURE

<i>Rs. in Lakhs</i>						
<i>Year</i>	<i>Opening Balance</i>	<i>Allocation by GOI</i>	<i>Actual Release GOI</i>	<i>Expenditure by KWA</i>	<i>Closing Balance (OB+Release-Exp)</i>	<i>Amt permitted to be kept as OB as per GOI norms</i>
1998-99	709.87	4673.49	4673.49	3148.62	2234.74	934.70
1999-2000	2234.74	4307.80	3446.30	4217.56	1463.48	861.50
2000-01	1463.48	5746.00	5144.42	4372.25	2235.65	861.90
Total from 1998-99 to 2000-01			13264.21	11738.43	..	1463.08

<i>Para No.</i>	<i>Reply</i>
(1)	(2)
7.15.1	No remarks
7.15.2a	<p>Progress on AUWSP schemes could not be achieved as targeted owing to the following reasons.</p> <p>Land required for the schemes, which were agreed to be surrendered free of cost, were not surrendered to the KWA by the local bodies. The estimates can be prepared only after the land is obtained and soil investigations are done.</p> <p>KWA have taken positive measures in resolving land acquisition problems. KWA have created a revolving fund which can be effectively utilized by the local bodies for land purchases.</p>
7.15.2b	<p>Eventhough Government of Kerala had not specifically released Rs. 37.62 lakhs, being the 2nd instalment of AUWSP for 1994-95, they had released Rs. 65.00 Lakhs in 1994-95 and Rs. 100.00 Lakhs in 1995-96 to KWA, which is more than double the required share to be released by the State Government. Hence there is no short release of funds by the Government of Kerala.</p> <p>GOI is releasing 50% central share through GOK. GOK is releasing the 50% state share through state budget in 10 equal monthly instalments during a year. KWA is allowed to operate only one TSB account with treasury. GOK is issuing release orders to credit the amount in TSB account maintained in the District Treasury. Withdrawals are permitted based on the actual requirement by separate ways and means clearance order. The unutilized balance under this head is still lying in the TSB account. Due to the above reasons, no separate account was maintained for this scheme.</p>
7.15.2c	In the State Budget, funds for centrally sponsored schemes are provided in the loan head. As the provision is available in the loan head, GOK had released amount

(1)	(2)
	in that head. KWA has already requested GOK to transfer the loan amounts released against the Central assistance, to grant account, which is under consideration of the Government.
7.15.3	As per the guidelines for AUWSP, the selections of towns are done by the SLSC constituted for this purpose based on the availability of budgetary provision, availability of land etc. KWA is taking all efforts to include more schemes under AUWSP in the forthcoming years so as to cover all problem towns in a phased manner.
7.14.4(i)	<p>While preparing the estimate for tendering, the mistake that has happened inadvertently has already been rectified. Action is proposed to be taken against those who committed the mistake.</p> <p>At the same time, it may be pointed out that some important and most essential components are not included, in the project report by oversight. The details are :</p> <ol style="list-style-type: none"> <li>(1) Construction of clear water pump house</li> <li>(2) Supply and erection of surge arrester</li> <li>(3) Construction of retaining wall.</li> <li>(4) Road reformation charges to be remitted to the PWD.</li> </ol> <p>The total additional amount required for the completion of the work would be Rs. 22.79 lakhs. Hence, no deviation was suggested in the original project cost.</p> <p>The mistake has taken place inadvertently and without any aim of boosting up the estimate.</p>
7.15.4(ii)	It is not true that the scheme has not taken off. The work of well cum pump house is in progress and is 98% completed. Pumping main works are 40% over. The site proposed in the DPR for the construction of Treatment Plant and GL sump is under the custody of the M/s Prajothi Nikethan, a charitable institution, who has



(1)	(2)
7.15.4(iii)	<p>constructed a building in the site proposed for the TP and GL sump for the scheme. On making several attempts with these people as well as the local body, an alternate site enroute the originally proposed raw water pumping main is now made available by the local body. This site being at a lower level, necessitates pumping of the clear water to the originally proposed GLSR, whose site the local body managed to provide of late.</p> <p>The only deviation of the new proposal is that instead of pumping raw water to the WTP and distributing it through a GLSR at that level, the WTP is now being constructed at a lower level and clear water is pumped to the originally proposed GLSR. This deviation is now approved and further action on the same is being taken.</p> <p>Laying distribution system is almost over. The scheme has been commissioned partially. The scheme can be fully commissioned on March 2006.</p> <p>The original site for the source at Kunnappillikadavu was suspected to be contaminated by the effluents of a nearby paper mill. Hence, as suggested by the panchayat authorities, another site was selected and soil tests were conducted by KWA. But the soil investigation report revealed that construction of intake well on this site will be difficult and expensive. Then the original site was again chosen. It was also ascertained from the paper mill that they adopted wastewater treatment and that the effluents will not have adverse impact on the river water. As these are now found to be satisfactory, the source work has been arranged and is in progress. Regarding OH tank site also, alternate site had to be found. The work has now been completed.</p> <p>Treatment Plant work also will be arranged as soon as the work is tendered.</p>
7.15.5	<p>There was criticism from the GOI regarding the poor Progress of AUWSP. There has been 3 review meetings conducted recently and activities have again been geared up.</p>

(1)	(2)
	<p>i. The audit para refers to the following seven water supply schemes</p> <ol style="list-style-type: none"> <li>(1) LIC aided WSS to Cheekode, Muthuvallur and Kuzimanna Villages</li> <li>(2) LIC aided WSS to Pulikkal and Pallikkal</li> <li>(3) LIC aided WSS to Cherukavu Village</li> <li>(4) LIC aided WSS to Vazhakkad Village</li> <li>(5) LIC aided WSS to Vazhayur Village</li> <li>(6) LIC aided WSS to Karuvanthuruthy</li> <li>(7) LIC aided WSS to Feroke Census Town</li> </ol>
	<p>The source, ie. the intake well cum pump house in Chaliyar river is common to the above schemes.</p>
	<p>The land for the well cum pump house was obtained on 17-9-1998. The estimate for the well cum pump house was sanctioned on 22-1-1998. The tender was invited in 12/1998 vide tender 25/1997-98 and the recommendations for the selection of a contractor was submitted to the Government for approval. But the Government vide letter No. 2468 B1 99 IrD dated 14-4-1999 had observed that the Authority failed to comply with all necessary formalities while inviting tenders and directed KWA to retender.</p>
	<p>As per the Government direction, the work was retendered on 10-11-1999 and the recommendations for the selection of a contractor were resubmitted to the Government for approval. This was returned vide letter No. 20513/B 1/2001/IrD dated 8-10-2001 instructing to retender the work again ensuring required publicity. But there was enough publicity and when the facts were explained to the Government, vide order No. GO. (Rt) No 728/2002/WRD dated 27-8-2002, Government accorded sanction to award the work. The work was awarded to the lowest tenderer vide order No KWA/HO/WN/TD-S/315 dated 4-9-2002. The work is now completed.</p>

(1)	(2)
	<p>As the work for the well cum pump house was progressing satisfactorily, the work for the GLSR is now completed. The CI pipes worth Rs.639.35 Lakhs required for the raw water and clear water pumping main were procured during 1999-2000 in anticipation of finishing the work in time. As there was delay as explained in the previous paragraph, the pipe could not be laid. Now the pipes are also being put to use.</p> <p>The NIT for the treatment plant was prepared in 7/1998 and work was tendered in 10/1998. Subsequently this was cancelled, as the work on the source could not be started as anticipated. Directions have now been issued to arrange the work of Treatment Plant and other components of the scheme and they are in various stages of tendering.</p> <p>ii As the land for the construction of the source was not made available to KW by the Grama Panchayath, even after a considerable period of time, borewell was drilled at Neuimunda as alternative source. A pumping main was laid from this bore well to the tank at Meppadi and the bore well was energized. Similarly the transmission main was laid from an already constructed weir at Elambilery to the existing tank at Meppadi. By utilizing both these sources, the distribution line of 30 km. was also charged. The scheme was commissioned in 31-12-2001.</p> <p>iii The LIC aided WSS to Methala, Eriyad, Kadukutty and Technology Mission Scheme Azhikode and Edavilangu were taken up as a combined WSS with intake well, water treatment plant, pumping main, gravity main and intermediate reservoirs as common components. The land required for the scheme is to be made available by the beneficiary local body.</p> <p>As the local body failed to make available the land, KWA obtained sanction of the Authority on 27-8-1998 to acquire the land and the same was</p>

(1)	(2)
	<p data-bbox="667 468 1252 594">acquired on 30-10-2000. The work for the construction of the Treatment Plant is now tendered and the work of the well-cum-pump house is arranged and is now in progress.</p> <p data-bbox="667 611 1252 669">The scheme is now in various stage of execution and is targeted for completion in 12/2004.</p> <p data-bbox="613 686 1252 905">It may be noted that the loan amount received from LIC is not kept idle. If a scheme for which LIC loan was received is not progressing, the loan amount would be used for other scheme under state plan, ARP etc. for which funds are required and vice versa. Hence the observation that LIC loan was not put to use is not correct.</p>

## APPENDIX III

## COMPLETE LIST OF ARWS SCHEMES

<i>Sl. No.</i>	<i>Name of scheme</i>	<i>District</i>	<i>Est. Amount (Rs. in lakhs)</i>	<i>Date of Sanitation</i>	<i>Present status</i>	<i>Remarks</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Arattupuzha ward 5&6	Alappuzha	5.42	17 Sep 1977	Completed	..
2.	Kandalloor West	..	4.73	..	..	..
3.	Arattupuzha and Muthukulam	..	7.56	21 Jan 1978	..	..
4.	Arthunkal	..	7.92	..	Not taken up	N e w scheme implemented for Rs. 91.60
5.	Chettikkad II stage	..	3.32	..	Completed	..
6.	Karthikapally	..	4.34	..	..	..
7.	Kaviyoor	..	4.37	..	..	..
8.	Kuthiyathode	..	7.00	..	..	..
9.	Muhama	..	4.85	..	..	..
10.	Punnapra	..	5.00	..	..	..
11.	Thrikkunnapuzha	..	4.85	..	..	..
12.	Thycattuserry	..	9.20	..	..	with LIC aid
13.	Kottamkalitha and Kumarapuram	..	6.36	21 Nov 1978	..	..
14.	Mararikkulam North	..	7.21	..	..	..
15.	Mulakkuzha	..	9.76	..	Ongoing	..
16.	Nooranad	..	9.57	..	Completed	..
17.	Pallithode	..	4.00	..	Not taken up	Due to no source
18.	Pandanad	..	8.00	..	Completed	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
19.	Chunakkara	Alappuzha	24.50	31 Oct 1979	Completed	..
20.	Thazhakara	”	23.00	22 Feb 1980	”	..
21.	Thamarakkulam	”	36.90	6 Feb 1981	”	..
22.	Thaneermukkom (South)	”	30.14	”	”	..
23.	Mattathilbhagom	”	27.65	26 Feb 1982	”	..
24.	Nedumudy and Kainakary	”	110.09	9 Dec 1983	”	with LIC aid
25.	Veeyapuram	”	23.14	”	”	”
26.	Kandalloor Karthikapally	”	19.23	29 Sep 1986	”	..
27.	Pathiyoor & Keerikkad	”	49.55	”	”	..
28.	Puthupally	”	31.50	”	”	..
29.	Aryad North	”	11.33	18 Aug 1988	”	..
30.	Kavalam and Neelamperoor	”	113.15	”	”	2001-02
31.	Purakkad	”	14.15	”	”	..
32.	Vallikkunnam	”	11.68	16 Mar 1990	”	..
33.	Panavally	”	24.99	29 Nov 1990	”	..
34.	Thampakachuvadu (Mannancherry)	”	24.90	”	”	..
35.	Cheruthana	”	24.97	12 Jan 1993	Ongoing	..
36.	Karumady	”	22.90	”	”	..
37.	Karuvatta	”	24.94	”	”	..
38.	Bharanikkavu and Adj. Villages Phase-I	”	129.60	5 Oct 1993	”	..
39.	Kurattisserry and adj. Villages	”	234.46	”	”	..
40.	Ala and adj. Villages Phase I	”	366.50	12 Mar 1996	”	..
41.	Ala and adj. Villages Phase II	”	285.00	16 Feb 1999	”	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
42.	Nooranad & Chunakkara	Alappuzha	325.00	„	Ongoing	..
43.	Bharanikavu	„	1337.69	29 Apr 2002	„	..
44.	Edathala Choornikkara	Ernakulam	9.22	17 Sep 1977	Completed	..
45.	Keezhumadu	„	9.94	„	„	..
46.	Nettoor	„	4.07	„	„	..
47.	Angamali Extn.	„	2.36	21 Jan 1978	„	..
48.	Elanji and Puthuveli	„	6.06	„	„	..
49.	Karakutty	„	2.47	..	„	..
50.	Karimugal Colony	„	1.45	„	„	..
51.	Kottappuram	„	2.11	„	„	..
52.	Maradu	„	5.36	„	„	..
53.	Neerikode	„	2.60	„	„	..
54.	Parakadavu	„	2.42	„	„	..
55.	Kumbalam	„	2.00	21 Nov 1978	„	..
56.	Peringole (Comp)	„	2.25	„	„	..
57.	Eramalloor (Nellikuzhy)	„	2.10	31 Oct 1979	„	..
58.	Kadavoor (Paingattur)	„	3.90	„	„	..
59.	Varapetty	„	5.00	„	„	..
60.	Kumbalangi	„	35.80	14 Feb 1983	„	..
61.	Keerampara	„	20.44	9 Dec 1983	„	with LIC aid
62.	Manjalloor	„	23.51	„	„	„
63.	Thirumarady and Onakkur	„	66.41	4 Feb 1984	„	„
64.	Arakkuzha Palakuzha	„	45.30	23 Feb 1984	„	„
65.	Valakom and Mazhuvannoor	„	68.71	„	„	„
66.	Vazhakkulam	„	37.50	21 Aug 1984	„	..
67.	Chengamanad	„	60.00	10 Jan 1985	„	..
68.	Cheranallloor	„	65.59	„	„	..
69.	Eranalloor	„	36.15	27 Oct 1986	„	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
70.	Meenad and Mulamthuruthy	Emakulam	61.07	10 Feb 1987	Completed	..
71.	Ramamangalam & Memury	„	39.20	19 Oct 1987	„	..
72.	Vengoor E & W	„	87.00	„	„	2001-02
73.	Thriuvankulam	„	18.85	18 Aug 1988	„	..
74.	Kanayannur (Kurikkad)	„	28.00	1 Aug 1989	„	with LIC aid
75.	Pothanikkad	„	51.00	„	„	..
76.	Kothakulangara (N)	„	194.00	1 Jan 1991	Ongoing	..
77.	Amballoor & Adj. Villages	„	269.00	5 Oct 1993	Completed	..
78.	Ayiroor, Parakkadavu and Puthenvelikkara	„	210.36	„	Ongoing	..
79.	Kothakulangara (S)	„	150.00	„	„	..
80.	Kuttamangalam and Neriyaamangalam *	„	380.00	2 May 1998	„	..
81.	Velloorkunnam Village	„	70.00	16 Feb 1999	Completed	2001-02
82.	ARWSS to Kuttampuzha Villages	„	514.00	4 Apr 2000	Ongoing	..
83.	Mulavoor and Eramalloor	„	838.00	„	„	..
84.	Kumily	Idukki	9.00	17 Sep 1977	Completed	..
85.	Kunjithanni	„	1.57	„	„	..
86.	Malloorkonam	„	1.75	„	„	..
87.	Mulamkunnam	„	3.50	„	„	..
88.	Parathode	„	1.48	„	„	..
89.	Santhanpara	„	2.28	„	„	..
90.	Vellathooval	„	1.25	„	„	..
91.	Kumaramangalam	„	0.61	21 Jan 1978	„	..
92.	Kuttikkanam & Pallikunnu	„	5.96	„	„	..
93.	Nedumkandam & Pampadumpara	„	6.02	„	„	..
94.	Udumpanchola	„	1.43	„	„	..
95.	Karimkunnam	„	1.69	„	Not taken up	..
96.	Vagamon	„	1.66	21 Nov 1978	Completed	..
97.	Valiyakandam	„	2.51	„	Not taken up	..



(1)	(2)	(3)	(4)	(5)	(6)	(7)
98.	Vattavada	Idukki	3.09	21 Aug 1984	Completed	..
99.	Purappuzha	„	20.46	21 Aug 1984	„	with LIC aid
100.	Karimkunnam-2	„	14.20	„	„	..
101.	Velliamatom	„	20.60	„	„	with LIC aid
102.	Karikkode	„	22.55	10 Jan 1985	„	..
103.	Mlappara	„	9.12	29 Sep 1986	„	with LIC aid
104.	Chakkuppallam & Periyar	„	92.50	19 Oct 1987	„	„
105.	Vathikkudi	„	48.39	18 Aug 1988	„	..
106.	Rajakkad & Rajakumari	„	75.00	1 Aug 1989	„	..
107.	Kudaythoor	„	24.78	29 Nov 1990	„	..
108.	Kadavoor, Kallurkkad & Kumaramangalam	„	290.00	1 Jan 1993	„	..
109.	Idukki & Kanjikkuzhi	„	335.00	7 Dec 1995	Ongoing	..
110.	Marayoor	„	116.00	„	Completed	2001-02
111.	Vandanmedu & Anakkara	„	529.00	12 Mar 1996	Ongoing/PC	..
112.	Elappara & Peerumedu	„	1960.00	16 Feb 1999	Ongoing	..
113.	Kalkoonthal village	„	731.00	4 Apr 2000	„	..
114.	Kattappana & Ayyappancoil Village	„	1832.00	„	„	..
115.	Vellathuval and Konnathady Village	„	2070.00	„	„	..
116.	Pallivasal & adj. Villages	„	500.00	29 Apr 2002	„	..
117.	Kannadiparambu	Kannur	5.05	17 Sep 1977	Completed	..
118.	Muzhippilangadu	„	8.67	„	„	..
119.	Narath	„	4.00	„	„	..
120.	Puzhathinikunnu	„	0.37	„	Not taken up	..
121.	Ettillulam & Ezhimala	„	2.66	21 Jan 1978	Completed	..
122.	Mangad	„	5.32	„	„	..
123.	Muthukuda	„	1.45	„	„	..
124.	Palakode	„	2.39	„	„	..
125.	Muzhakunnu	„	6.83	21 Nov 1978	„	..
126.	Panoor-Mokeri	„	5.95	„	„	..
127.	Payattom	„	4.93	„	„	..
128.	Pinarayi	„	3.40	„	„	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
129.	Kuthuparamba	Kannur	9.80	31 Oct 1979	Completed	..
130.	Manathana	„	5.75	„	„	..
131.	Chirakkal	„	32.47	21 Aug 1984	„	..
132.	Kodiyeri	„	25.72	3 Jun 1985	„	with LIC aid
133.	Edakkad	„	49.78	29 Sep 1986	„	..
134.	Kottayam	„	28.07	10 Feb 1987	„	..
135.	Chembilode	„	25.42	18 Aug 1988	„	..
136.	Cheruvancherry	„	22.32	„	„	..
137.	Eruvatty	„	32.15	„	Ongoing	..
138.	Mangattidam & Kandankunnu	„	57.87	„	Ongoing/PC	..
139.	Puthur	„	31.15	„	Completed	..
140.	Irikkur & Adj villages	„	301.82	19 Apr 1990	Ongoing	..
141.	Nediyanga & Chuzhali	„	211.20	1 Jan 1993	Not taken up	Dropped
142.	Thrippangottur	„	320.00	12 Mar 1996	Ongoing	..
143.	Padiyoor & Vayathur*	„	444.00	8 May 1998	„	..
144.	Keezhur & Chavasserry	„	437.00	16 Feb 1999	„	..
145.	Panoor & Mokeri	„	414.00	„	„	..
146.	Bakel Fort	Kasaragode	5.50	17 Sep 1977	Completed	..
147.	Kubadji	„	0.40	„	Not taken up	..
148.	Panathady	„	12.00	21 Nov 1978	Completed	..
149.	Badadka	„	11.26	21 Aug 1984	„	..
150.	Bombrana & Koipady	„	47.14	„	„	with LIC aid
151.	Badadka-2	„	12.29	6 Mar 1985	„	..
152.	Kinanur & Karindalom	„	33.90	10 Feb 1987	„	with LIC aid
153.	Kuttikole	„	10.33	„	„	„
154.	Pady	„	23.28	„	„	..
155.	Pullur and Periya	„	58.18	„	„	with LIC aid
156.	Bela	„	16.80	18 Aug 1988	„	..
157.	Madikai	„	45.22	„	„	..
158.	Maloth & Balal villages	„	442.00	16 Feb 1999	Ongoing	..
159.	Badiyaduka	„	430.00	5 Apr 2000	„	..
160.	Ochira	Kollam	2.57	17 Sep 1977	Completed	..
161.	Koivila	„	4.60	21 Jan 1978	„	..
162.	Kozhencherry Extn	„	0.75	„	„	..
163.	Sooranad North	„	6.50	„	„	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
164.	Thrikkadavoor	Kollam	8.61	21 Jan 1978	Completed	..
165.	Thevalakkara	„	3.88	„	„	..
166.	Ezhukone	„	6.41	21 Nov 1978	„	..
167.	Kadamanthitta	„	5.93	„	„	..
168.	Kadampnad	„	7.86	„	„	..
169.	Kareepra	„	9.04	„	„	..
170.	Koikal	„	5.52	„	„	..
171.	Koonayil	„	4.73	„	„	..
172.	Mayyanad	„	7.15	„	„	..
173.	Mynagapally	„	3.09	„	„	..
174.	Nedumpana	„	4.90	„	„	..
175.	Paripally	„	9.15	„	„	..
176.	Thrikaruva	„	7.31	„	„	..
177.	Vettikavala	„	9.26	„	„	..
178.	Chittattumala	„	7.54	„	Not taken up	To be ascertained
179.	Kalakode	„	6.63	„	Completed	with LIC aid
180.	Kalluvathukkal	„	9.77	„	„	„
181.	Todiyoor	„	4.47	„	„	..
182.	Panmana (Edapallikotta)	„	9.80	31 Oct 1979	„	..
183.	Karunagapally	„	32.45	6 Feb 1981	„	..
184.	Thenmala	„	27.82	26 Feb 1982	„	with LIC aid
185.	Adichanalloor	„	21.31	14 Feb 1983	„	„
186.	Mynagapally	„	41.31	„	„	„
187.	Tazhava	„	36.76	22 Mar 1984	„	„
188.	Todiyoor-2	„	32.77	„	„	„
189.	Kottamkara	„	49.00	21 Aug 1984	„	„
190.	Velinalloor	„	34.80	29 Sep 1986	„	„
191.	Aryankavu	„	26.50	18 Aug 1988	„	..
192.	Kottarakkara & adj vil	„	140.00	„	Ongoing/PC	..
193.	Kunnathur	„	42.50	„	Completed	with LIC aid
194.	Thekkumbhagom	„	22.28	16 Mar 1990	„	..
195.	Thevalakkara	„	25.00	„	„	with LIC aid
196.	Chavara	„	24.96	29 Nov 1990	„	..
197.	Panmana	„	24.18	„	„	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
198.	Kulasekharapuram	Kollam	24.02	12 Jan 1993	Ongoing/PC	..
199.	Kulathupuzha Phase I	„	191.00	5 Oct 1993	Ongoing	..
200.	Kulathupuzha Phase II	„	227.00	„	„	..
201.	Pathanapuram & adj v	„	378.00	„	„	..
202.	Mundroe Island	„	30.00	2 May 1998	„	..
203.	Chanthankulam	Kottayam	3.85	17 Sep 1977	Completed	..
204.	Erattupetta (Aug)	„	6.80	„	„	..
205.	Kallara	„	5.90	„	„	..
206.	Kanakari	„	3.20	„	„	..
207.	Amara	„	1.41	21 Jan 1978	„	..
208.	Aymanam Ward 7 & 8	„	5.46	„	„	..
209.	Kummannoor	„	1.80	„	„	..
210.	Mannanam	„	1.12	„	„	..
211.	Vettukulangara	„	1.35	„	„	..
212.	Kumarakom	„	6.06	21 Nov 1978	„	..
213.	Lakkattor	„	5.49	„	„	..
214.	Nattakom	„	1.65	„	„	..
215.	Thottakkadu	„	4.78	„	„	..
216.	Amara (Thrikkodithanam	„	9.90	31 Oct 1979	„	..
217.	Nedumkunnam & Kangazha	„	52.9	24 Apr 1981	Ongoing	with LiC aid
218.	Parathodu	„	65.75	30 May 1981	Completed	..
219.	Elakkad & Kurichithanam	„	61.20	21 Aug 1984	„	..
220.	Puliyannur & Meenachi1	„	118.85	„	„	..
221.	Ayarakunnam & Koorappada	„	137	29 Sep 1986	„	with LIC aid
222.	Kumarakom & Thriuvvarppu	„	19.23	„	„	with LIC aid
223.	Poonjar Thekkekara	„	21.99	„	„	..
224.	Lalam Vallichira	„	52.00	27 Oct 1986	„	..
225.	Madapally & Karukachal	„	143.34	18 Aug 1988	Ongoing	with LIC aid
226.	Poovarani	„	41.70	„	Completed	..
227.	Kidangoor	„	154.17	1 Jan 1993	Ongoing	..
228.	Puthupally	„	138.86	5 Oct 1993	„	..
229.	Veliyannur & adj villages	„	366.42	7 Dec 1995	„	..
230.	Ettumanoor (Kanakari) Phase I*	„	937.00	2 May 1998	„	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
231.	Ettumanoor (Athirampuzha) Phase II*	Kottayam	1419.00	2 May 1998	Ongoing	..
232.	Kallara village	„	342.00	16 Feb 1999	„	..
233.	Veliyannur & Adj village Phase II	„	650.00	„	„	..
234.	Veliyannur & Adj village Phase III	„	599.00	„	„	..
235.	Manimala Phase I	„	460.00	4 Apr 2000	„	..
236.	Manimala Phase III	„	106.00	„	„	..
237.	Feroke	Kozhikode	2.42	17 Sep 1977	Completed	..
238.	Ongilad	„	3.30	„	„	..
239.	Thattikkunnumala	„	3.00	„	„	..
240.	Chathamangalam	„	4.90	21 Jan 1978	„	..
241.	Kavubhagam Bazar	„	6.36	„	„	..
242.	Pinangode & Vengapally	„	2.76	„	„	..
243.	Chengattukavu	„	2.94	21 Nov 1978	„	..
244.	Thuruthupuram	„	1.54	„	„	..
245.	Viyoor (Quilandy)	„	4.00	31 Oct 1979	Not taken up	..
246.	Purameri	„	6.10	6 Feb 1981	Completed	with LIC aid
247.	Quilandy & adj villages	„	520.00	3 Nov 1983	Ongoing	„
248.	Koduvally & Kizhakkoth	„	110.00	6 Mar 1985	Completed	„
249.	Onchiyam & Chorode (Comp)	„	332.53	„	Ongoing	„
250.	Chekkiad	„	34.55	29 Sep 1986	Completed	„
251.	Kodencherry	„	75.24	„	„	„
252.	Maruthomkara	„	30.93	„	„	„
253.	Panangad & Kinalloor	„	35.47	„	„	„
254.	Edacherry	„	64.70	19 Oct 1987	„	..
255.	Maniyoora Palayad	„	105.00	„	„	..
256.	Thiruvalloor Ayancherry	„	104.50	„	Ongoing/PC	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
257.	Kayanna	Kozhikkode	33.50	18 Aug 1988	Completed	..
258.	Kuttiyadi	..	30.50	..	..	..
259.	Sivapuram & Unnikulam	..	73.70	..	..	..
260.	Talakulathoor	..	57.87	31 May 1990	..	..
261.	Velam	..	88.50	12 Jan 1993	..	..
262.	Thuneri (Kunnuamal ph V)	..	150.00	16 Feb 1999	Ongoing	..
263.	Kayakkudi (Kunnummal ph IV)	..	251.00	5 Apr 2000	..	..
264.	Naripetta (Kunnummal ph VI)	..	295.00	..	..	..
265.	Valayam (Kunnummal ph VII)	..	307.00	..	..	..
266.	Vanimal (Kunnummal ph VIII)	..	355.00	..	..	..
267.	Paleri	..	182.00	29 Apr 2002	..	..
268.	Cheriyamundam	Malappuram	2.91	17 Sep 1977	Completed	..
269.	Palapetti	..	2.40	..	..	..
270.	Ponmundam	..	4.27	..	..	..
271.	Abdulrahman Nagar	..	7.94	21 Jan 1978	..	..
272.	Edarikkode	..	7.90	..	Ongoing	with LIC aid
273.	Mukkali	..	5.00	21 Jan 1978	Completed	..
274.	Aliparamba	..	4.57	21 Nov 1978	..	..
275.	Anakayam	..	2.25	..	..	..
276.	Edakkara	..	8.89	..	..	..
277.	Ezhuvanthuruthy	..	9.95	..	..	..
278.	Kavannoor	..	5.07	..	..	..
279.	Moorkanad	..	8.76	..	..	..
280.	Nannambra	..	9.24	..	..	..
281.	Pallikkal	..	0.90	..	..	..
282.	Pandikkad	..	1.32	..	..	..
283.	Thanalur	..	6.30	..	..	..
284.	Thuvor	..	4.50	..	..	..
285.	Vazhikkadavu	..	4.22	..	..	..
286.	Vettom	..	6.21	..	..	..
287.	Parappanangadi (Comp)	..	65.48	21 Jan 1979	..	with LIC aid

(1)	(2)	(3)	(4)	(5)	(6)	(7)
288.	Nilambur	Malappuram	28.50	31 Oct 1979	Completed	..
289.	Thirunavaya	„	4.30	„	„	..
290.	Vazhikkadavu	„	2.85	„	„	..
291.	Wandoor	„	23.43	26 Feb 1982	„	with LIC aid
292.	Ezhuvanthuruthy (Comp)	„	155.29	16 Sep 1982	„	„
293.	Kottakkal and Parappur	„	41.15	14 Feb 1983	„	„
294.	Uragom and Kannamangalam (Comp)	„	99.55	22 Mar 1984	„	„
295.	Munniyoor Tenhippalam	„	105.00	21 Aug 1984	„	„
296.	Urangathiri	„	38.67	„	„	„
297.	.Chelambra	„	39.79	29 Sep 1986	„	„
298.	Peruvalloor	„	40.05	29 Sep 1986	„	„
299.	Amaramblam	„	201.93	19 Apr 1990	Ongoing/PC	..
300.	Irimbilium, Valencherry	„	272.00	5 Oct 1993	Ongoing	..
301.	Keezhuparamba village	„	130.00	12 Mar 1996	„	..
302.	Thirunavaya Phase I*	„	1295.00	8 May 1998	„	..
303.	Angadippuram & Adj Ph-II	„	382.00	16-Feb-99	„	..
304.	Elamkulam village (Angadippuram & adj vil Phase I	„	230.00	16 Feb 1999	„	..
305.	Kuruva Village (Moorkanadu & adj vil Ph-II)	„	510.00	16 Feb 1999	„	..
306.	Moorkanadu village (Moorkanad & adj vil Ph-I	„	265.00	„	„	..
307.	Thirunavaya & adj vil Ph III	„	495.00	„	„	..
308.	Angadippuram and adj. villages 11	„	600.00	5 Apr 2000	„	..
309.	CARWSS to Moorkanad Phase II	„	550.00	„	„	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
310.	CARWSS to Moorkkanad Phase I	Malappuram	610.00	5 Apr 2000	Ongoing	..
311.	CARWSS to Moorkkanad Phase	„	510.00	„	„	..
312.	Akampadam	„	222.00	29 Apr 2002	„	..
313.	Palakkad	Palakkad	6.00	17 Sep 1977	Not taken up	..
314.	Anakkara	„	7.60	21 Jan 1978	Completed	..
315.	Erumayoor	„	5.00	„	„	..
316.	Shomur Extn	„	5.58	„	„	..
317.	Kannadi	„	9.98	31 Oct 1978	„	..
318.	Chelavara	„	7.00	21 Nov 1978	Completed	with LIC aid
319.	Cherplacherry	„	9.37	„	„	..
320.	Edathanattukara	„	0.86	„	„	..
321.	Kadampazhippuram	„	2.90	„	„	..
322.	Koduvayoor	„	9.70	„	„	..
323.	Kozhinjampara	„	9.90	„	„	..
324.	Mathur	„	9.31	„	„	..
325.	Nalleppilly	„	5.20	„	„	..
326.	Thrikkatteri	„	7.03	„	„	..
327.	Kollengode	„	47.35	31 Oct 1979	Ongoing	with LIC aid
328.	Agali (Tribal settlement)	„	7.50	22 Feb 1980	Completed	..
329.	Akethethara	„	9.95	6 Feb 1981	„	..
330.	Coyalmanam	„	28.12	30 May 1981	„	..
331.	Ambalappara	„	31.90	26 Feb 1982	„	with LIC aid
332.	Pattithara	„	24.32	„	„	..
333.	Elappally	„	49.09	14 Jan 1983	„	..
334.	Marutharode	„	18.40	14 Feb 1983	„	with LIC aid
335.	Thriuvegappura	„	21.00	14 Feb 1983	„	„
336.	Vilayoor	„	24.82	6 Feb 1984	„	..
337.	Muthuthala	„	21.87	21 Aug 1984	„	..
338.	Mannarghat I & II	„	37.50	29 Sep 1986	„	with LIC aid



(1)	(2)	(3)	(4)	(5)	(6)	(7)
339.	Kuttipallam & Thekkedesam	Palakkad	12.00	18 Aug 1988	Completed	..
340.	Pudupariyaram I & II	„	45.00	1 Aug 1989	„	..
341.	Paradur	„	135.00	1 Jan 1993	„	2001-02
342.	Kozhinjampara & adj vil	„	65.51	12 Jan 1993	Ongoing/PC	
343.	Pirayiri	„	61.00	12 Jan 1993	„	..
344.	Pothundy	„	37.70	7 Dec 1995	„	2001-02
345.	Kannambra I & II	„	32.87	29 Sep 1996	„	..
346.	Pottasserry I & II	„	228.00	16 Feb 1999	Ongoing	..
347.	ARWSS to Tarur village	„	275.00	5 Apr 2000	„	..
348.	Kumaramputhur	„	448.00	„	„	..
349.	Nellaya and Kulukkollur	„	512.00	„	„	..
350.	Pattambi	„	400.00	„	„	..
351.	Puducode	„	348.00	„	„	..
352.	Vaniyamkulam	„	361.00	„	„	..
353.	Kutdoor	Pathanamthitta	7.83	17 Sep 1977	Completed	..
354.	Pramadam	„	8.88	„	„	..
355.	Memala	„	8.35	21 Jan 1978	„	..
356.	Mylapra	„	1.47	„	„	with LIC aid
357.	Thottapuzhasserry	„	7.87	„	„	„
358.	Aruvappalam	„	9.70	21 Nov 1978	„	..
359.	Chennerkkara & Mazhuveli	„	9.51	„	„	..
360.	Konni & Aruvappalam	„	9.99	„	„	..
361.	Mallapuzhasserry	„	8.81	„	„	..
362.	Perumpara	„	9.30	„	„	..
363.	Ranni-Angadi	„	9.90	„	„	with LIC aid
364.	Ranni-Perinad	„	9.80	„	„	„
365.	Enath	„	7.80	31 Oct 1979	„	..
366.	Peringara	„	9.95	„	„	..
367.	Eraviperoor	„	33.97	22 Feb 1980	„	with LIC aid

(1)	(2)	(3)	(4)	(5)	(6)	(7)
368.	Pandalam & Thekkekara	Pathanamthitta	26.45	22 Feb 1980	Completed	with LIC aid
369.	Malayalapuzha	„	69.00	26 Feb 1982	„	„
370.	Kaviyoor 2	„	64.38	9 Dec 1983	„	„
371.	Koodal Enadimangalam	„	131.5	29 Sep 1986	„	with LIC aid
372.	Mallapally	„	46.56	„	„	„
373.	Pathanamthitta-Ranni	„	29.24	„	„	„
374.	Cherukole & Naranganam	„	99.56	18 Aug 1988	Ongoing	„
375.	Anicaud	„	112.58	1 Jan 1993	Ongoing/PC	„
376.	Perumpetty	„	111.22	„	Ongoing	„
377.	Kodumon & Angadical	„	383.59	12 Mar 1996	„	„
378.	Thannithodu village	„	169.95	„	„	„
379.	Kottangal*	„	204.77	2 May 1998	„	„
380.	ARWSS to Kallooppaara village	„	308.00	4 Apr 2000	„	„
381.	ARWSS to Kulanada Village	„	333.00	„	„	„
382.	ARWSS to Thavalappara	„	68.00	„	Not taken up	Dropped
383.	Mallapuzhasserry and Elanthoor	„	390.00	4 Apr 2000	Ongoing	„
384.	Chelakkara	Thrissur	2.19	17 Sep 1977	Not taken up	„
385.	Edavilangu	„	1.71	„	Completed	„
386.	Cheruthuruthy	„	9.46	21 Jan 1978	„	„
387.	Eriyad Extn	„	2.03	„	„	„
388.	Koorkkancherry	„	2.15	„	„	„
389.	Nayarangadi PS Colony	„	2.34	„	„	„
390.	Poruthisserry	„	4.39	„	„	„
391.	Varadium	„	0.92	„	„	„
392.	Vettilappara Ex.Ser.colony	„	2.40	„	„	„
393.	Varandarappilly	„	9.70	31 Oct 1978	„	„
394.	Engandiyoora	„	8.85	21 Nov 1978	„	„
395.	Perinjanam	„	7.30	„	„	„
396.	Sreenarayanapuram	„	6.38	„	„	„

(1)	(2)	(3)	(4)	(5)	(6)	(7)
397.	Thalikulam	Thrissur	9.60	21 Nov 1978	Completed	..
398.	Vilvattom	„	1.08	„	„	..
399.	Kalettukara	„	4.20	31 Oct 1979	„	..
400.	Mattathur	„	6.85	„	„	..
401.	Muringur- Thekkumury	„	4.60	„	„	..
402.	Nenmanikkara	„	9.57	6n Feb 1981	„	..
403.	Karalam & Padiyoor	„	50.85	26 Feb 1982	„	with LIC aid
404.	Vadakkancherry (comp)	„	105.20	„	„	„
405.	Thottippal	„	5.98	14 Feb 1983	„	..
406.	Nalukettu	„	4.6	19 Jun 1983	„	..
407.	Desamangalam	„	21.63	9 Dec 1983	„	with LIC aid
408.	Mupiliam	„	12.06	9 Dec 1983	„	..
409.	Kizhakkumuri & adj vil	„	49.16	22-Mar 84	Not taken up	..
410.	Azhikkode	„	17.50	22 Mar 1984	Completed	with LIC aid
411.	Anthikkad	„	44.00	21 Aug 1984	„	..
412.	Chazhoor & Alappad (Comp)	„	41.90	„	„	..
413.	Alur & Thazhekkad	„	29.63	17 Dec 1985	Completed	..
414.	Kalur Vadakkumuri	„	22.67	29 Sep 1986	Ongoing	with LIC aid
415.	Avinassery & Pallisserry	„	27.15	10 Feb 1987	Completed	with LIC aid
416.	Koorkkancherry & adj vil	„	105.00	20 Mar 1989	„	..
417.	Vilvattom & adj vil	„	86.9	19 Apr 1990	„	with LIC aid
418.	Manakody & adj vil	„	53.85	„	„	..
419.	Kadangode Phase I	„	456.00	1 Jan 1993	Ongoing	..
420.	Kadangode Phase II	„	264.00	„	„	..
421.	Killannoor	„	87.00	„	Completed	2001-02
422.	Poomangalam	„	75.00	7 Dec 1995	„	..
423.	Thekkumkara	„	325.00	„	Ongoing	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
424.	Chiranalloor and adj vil	Thrissur	416.00	12 Mar 1996	Ongoing	..
425.	Paralam	”	270.00	”	”	..
426.	ARWSS to Thrikkur*	”	426.00	8 May 1998	”	..
427.	Parappukkara*	”	475.00	”	”	..
428.	Pangarappilly	”	165.00	16 Feb 1999	Ongoing	..
429.	Porathisserry and Madayikonam	”	195.00	”	”	..
430.	ARWSS to Manalur and Karamuk	”	450.00	5 Apr 2000	”	..
431.	Melur and adj. villages Phase I	”	310.00	”	”	..
432.	Melur and adj. villages Phase II	”	210.00	”	”	..
433.	Thiruvilwamala Village	”	667.00	”	”	..
434.	Kadakampally	Tvpm	2.41	17 Sep 1977	Completed	..
435.	Nemom	”	8.56	”	”	with LIC aid
436.	Ottasekharamangalam	”	5.71	”	”	..
437.	Aruvikkara	”	7.88	21 Jan 1978	”	..
438.	Kanjiramkulam	”	7.00	”	”	..
439.	Kattakkada	”	9.40	”	”	..
440.	Thirupuram	”	1.57	”	”	with LIC aid
441.	Cheruniyoor	”	5.57	21 Nov 1978	”	..
442.	Elakmon	”	9.21	”	”	..
443.	Kalliyoor & Thiruvallam	”	6.33	21-Nov-78	”	with LIC aid
444.	Kuttichal	”	7.86	”	”	..
445.	Marayamuttom	”	7.60	”	”	..
446.	Mluttacaud	”	9.78	”	”	..
447.	Navaikulam	”	7.44	”	”	..
448.	Pallichal	”	7.10	”	”	..
449.	Poozhikkunnu	”	9.90	”	”	..
450.	Pullampara	”	3.17	”	”	..
451.	Vattiyoorkavu	”	6.89	”	”	with LIC aid

(1)	(2)	(3)	(4)	(5)	(6)	(7)
452.	Vellanad	Tvpm	7.15	21 Nov 1978	Completed	..
453.	Athiyanloor	..	7.75	31 Oct 1979	..	..
454.	Kottukal	..	9.44	6 Feb 1981	..	..
455.	Kunnathukal	..	32.70	14 Feb 83	..	with LIC aid
456.	Andoorkonam and Pallippuram	..	32.17	6 Feb 1984	..	..
457.	Kadinamkulam	..	38.26	..	..	..
458.	Palode-A	..	20.69	..	..	..
459.	Vellalloor	..	16.27	..	..	with LIC aid
460.	Kazhakuttam and Menomkulam	..	35.41	22 Mar 1984	..	..
461.	Nellanad	..	26.32	..	..	..
462.	Vamanapuram A	..	18.5	..	Not taken up	..
463.	Aryanad	..	18.90	..	Completed	..
464.	Elamba	..	12.80	..	..	with LIC aid
465.	Karakulam	..	40.98	..	..	..
466.	Mudakkal	..	13.36	..	..	..
467.	Nemom(portion)	..	30.63	..	..	..
468.	Neyyattinkara (portion)	..	32.19	..	..	..
469.	Peringamala	..	26.06	..	..	..
470.	Poovachal	..	43.48	..	..	..
471.	Pulimath and Koduvazhannur	..	39.43	..	..	with LIC aid
472.	Tholicode	..	39.10	..	..	..
473.	Uzhamalakkal	..	27.37	..	..	..
474.	Vamanapuram B	..	30.23	..	..	with LIC aid
475.	Karavaram and Alamcode	..	57.59	21 Aug 1984	..	..
476.	Azhoor	..	54.30	..	..	..
477.	Kezhattingal	..	16.57	..	..	..
478.	Pallikkal-2	..	25.90	..	Ongoing	..
479.	Perumkadavila B	..	35.75	..	Completed	..
480.	Vilavoorkal	..	19.40	..	..	..
481.	Pangappara	..	6.86	7 Dec 1985	Not taken up	Source not reliable

(1)	(2)	(3)	(4)	(5)	(6)	(7)
482.	Manikkal	Tvpm	47.00	29 Sep 1986	Completed	..
483.	Pallichal, Nemom, Balaramapuram	„	76.65	18 Dec 1990	„	..
484.	Kilimanoor & adj. vil.	„	322.00	1 Jan 1993	Ongoing	..
485.	Vizhinjam	„	65.47	12 Jan 1993	Completed	..
486.	Marukil and Maranallur	„	154.00	5 Oct 93	Ongoing	..
487.	Panavoor, Pullampara	„	350.00	„	„	..
488.	Kulathummal (Kattakada)	„	66.00	1 Dec 1993	Completed	..
489.	Edacode and adj. villages*	„	609.00	2 May 1998	Ongoing	..
490.	Ottasekharamangalam I*	„	421.00	„	„	..
491.	Ottasekharamangalam II*	„	615.00	„	„	..
492.	Iroorppara	„	412.00	16 Feb 1999	„	..
493.	Kazhakuttam and Menomkulam	„	290.00	„	„	..
494.	Adj. villages to Varkala Phase I	„	339.00	4 Apr 2000	„	..
495.	Adj. villages to Varkala Phase II	„	217.00	„	„	..
496.	Adj. villages to Varkala Phase III	„	350.00	„	„	..
497.	Neyyattinkara (P) Aruvippuram	„	70.50	9 Sep 1997	„	..
498.	Manathody	Wayanad	3.44	21 Jan 1978	Completed	..
499.	Muttil	„	3.90	31 Oct 1978	„	..
500.	Edavaka	„	9.86	21 Nov 1978	„	..
501.	Kalpetta	„	9.49	„	„	with LIC aid
502.	Kaniyampetta	„	4.63	„	„	..
503.	Poothadi	„	6.72	„	„	..
504.	Padinjarethara	„	4.35	31 Oct 1979	„	..
505.	Kottathara	„	18.35	9 Dec 1983	„	with LIC aid
506.	Kottappady	„	53.00	21 Aug 1984	„	„
507.	Pulpally	„	78.70	„	„	„
508.	Vellamunda	„	16.57	„	„	„
509.	Tavinhal	„	52.60	10 Jan 1985	„	„

(1)	(2)	(3)	(4)	(5)	(6)	(7)
510.	Muttil-2	Wayanad	40.53	10 Feb 1987	Completed	with LIC aid
511.	Padinjarethara & Thariyode	„	44.20	„	„	..
512.	Vemom Nallurnad & Porunannoore	„	171.00	19 Oct 1987	„	..
513.	Injakkunnu and Kuppathodu (Panamaram)	„	113.80	5 Oct 1993	Ongoing	..
514.	Thirunelly village	„	510.00	7 Dec 1995	„	..
515.	Kaniyambetta	„	425.00	5 Apr 2000	„	..
516.	Ambalavayal	„	88.61	19 Oct 1987	Completed	with LIC aid
Total 519 Nos. (516+3 Borewell Schemes)			55714.35			

## LIST OF ONGOING ARP SCHEMES AS ON 31-7-2004

Sl. No.	Name of scheme	Division	Year of Sanction	Estimate Cost in Lakhs	Revised Year of Sanction	Revised Estimate Cost in Lakhs	Target date of completion
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	CARWSS to Edacode & Adj. villages	WS Division, Attingal	2-5-1998	609.00	27-3-2003	771.39	2005
2.	ARWSS to Kazhakkuttam, Menamkulam	"	16-2-1999	290.00	"	382.47	"
3.	ARWSS to Irooppara village	"	"	412.00	"	544.80	"
4.	Kilimanoor & Adj. Villages	"	1-1-1993	322.00	"	"	2007
5.	Varkala Phase I	"	4-4-2000	339.00	7-10-2002	502.0	"
6.	Varkala Phase II	"	"	217.00	"	303.00	"
7.	Varkala Phase III	"	"	350.00	"	497.00	"
8.	Ottasekaramangalam Phase I	WS Division, Neyyattinkara	1-5-1998	421.00	"	860.00	2005
9.	Ottasekaramangalam Phase II	"	2-5-1998	615.00	"	1235.00	"
10.	ARWSS to Neyyattinkara Part-Aruvippuram	"	"	70.50	"	"	2004
11.	Pathanapuram & Adj. Villages	PH Division, Kollam	10-5-1993	378.00	"	"	2005
12.	Kulathuppuzha & Adj. Villages Phase I	"	5-10-1993	191.00	"	"	"
13.	Kulathuppuzha & Adj. Villages Phase II	"	"	227.00	"	"	"
14.	Kurattissery & Adj. Villages	PH Division, Alappuzha	"	234.46	"	"	2007
15.	Chunakkara & Nooranad Phase II (Palamel village)	"	16-2-1999	325.00	27-3-2003	425.00	"



(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
16.	Ala & Adj villages Phase I	PH Division Alappuzha	12-3-1996	366.50	..	..	2007
17.	Ala & Adj villages Phase II	„	16-2-1999	285.00	27-3-2003	405.00	„
18.	CARWSS to Bharanikkavu	„	27-3-2003	1337.69	..	..	„
19.	Thannithode	PH Division Pathanamthitta	12-3-1996	169.95	..	..	2005
20.	Thavalappara	„	4-4-2000	68.00	..	..	2007
21.	ARWSS to Valikkode, Kodumon and Angadickal	„	12-3-1996	383.59	..	..	2006
22.	Elanthoor, Mallappuzhassery	„	4-4-2000	390.00	7-10-2002	512.00	„
23.	ARWSS To Kottangal (Pathanamthitta dist.)	PH Division Thiruvalla	2-5-1998	204.77	27-3-2003	287.69	2005
24.	Kallooppara	„	4-4-2000	308.00	7-10-2002	370.00	„
25.	Kulanada	WS Division Adoor	„	333.00	„	420.00	„
26.	Ettumanoor & Adj. Villages Phase I	PH Division Kottayam	2-5-1998	937.90	27-3-2003	1350.00	2006
27.	Ettumanoor & Adj. Villages Phase II	„	„	1419.00	„	1750.00	2005
28.	Manimala phase I	„	4-4-2000	460.00	7-10-2002	591.00	2006
29.	Manimala phase III	„	„	106.00	„	142.00	„
30.	Idukki and Kanjikkuzhy	PH Division Thodupuzha	7-12-1995	335.00	..	..	2004
31.	CARWSS to Vellathooval and Konmathadi	„	4-4-2000	2070.00	7-10-2002	2524.00	2007
32.	ARWSS to Pallivasal and adj. Villages	„	27-3-2003	500.00	..	..	2006
33.	CRWSS To Elappara & Adj. Villages Project Division Kattappana	„	16-2-1999	1960.00	7-10-2002	2198.00	2007
34.	Vandanmedu and Anakara	„	12-3-1996	529.00	..	..	„

35.	ARWSS to Kattappana and Ayyappan Coil	Project Division Kattappana	4-4-2000	1832.00	7-10-2002	2314.00	2007
36.	ARWSS to Erattayar & Kalkoonthal Village	"	"	731.00	"	755.00	"
37.	Veliyannor & Adj. Villages Phase I	PH Division Piravom	7-12-1995	366.42	"	"	"
38.	Veliyannor & Adj. Villages Phase II	"	16-2-1999	650.00	27-3-2003	950.00	"
39.	Veliyannor & Adj. Villages Phase III	"	"	599.00	"	866.00	"
40.	ARWSS to Kallara village	"	"	342.00	"	497.00	"
41.	Kothakulangara North	PH Division Perumbavoor	12-1-1993	194.00	"	"	2005
42(a).	Mulavoor and Eramalloor (portion)	"	4-4-2000	838.00	7-10-2002	1100.00	2004
42(b).	Mulavoor and Eramalloor (portion)	PH Division Muvattupuzha	"	838.00	"	1100.00	2005
43.	ARWSS to Kuttamangalam and Neriyanmangalam	"	2-5-1998	380.00	27-3-2003	692.00	"
44.	Kuttampuzha	"	4-4-2000	514.00	7-10-2002	600.00	"
45.	Kadangodu Phase II	PH Division Thrissur	1-1-1993	267.00	"	"	"
46.	CARWSS to Thekkumkara and adj. Villages	"	7-12-1995	325.00	"	"	2007
47.	ARWSS to Paralam & adj. Villages	"	12-3-1996	270.00	"	"	2005
48.	ARWSS To Pangarapilly & Pulakod	"	16-2-1999	165.00	7-10-2002	225.00	2007
49.	CARWSS to Tiruvilwamala, Kondazhy and adj. Villages	"	5-4-2000	667.00	27-3-2003	957.00	2006
50.	Manalur and Karamukku	"	"	450.00	7-10-2002	585.00	"

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
51.	ARWSS To Parapookara and Adj. Villages	PH Division Irinjalakkuda	8-5-1998	475.00	27-3-2003	623.00	2006
52.	ARWSS to Thrikkur & Kallar Villages	"	"	426.00	"	570.00	2007
53.	ARWSS To Porathisery and Madayikkonam	"	16-2-1999	195.00	"	275.00	2005
54.	Melur and Adjoining Village Phase I	"	5-4-2000	310.00	7-10-2002	410.00	2006
55.	Melur and Adjoining Village Phase II	"	"	210.00	"	275.00	"
56.	Pudhukode WSS	PH Division Palakkad	4-5-2000	348.00	27-3-2003	380.00	2005
57.	ARWSS to Tharur II Village	"	5-4-2000	275.00	7-10-2002	360.00	"
58.	ARWSS to Pottasserry I and II	PH Division Shornur	16-2-1999	228.00	27-3-2003	340.00	"
59.	ARWSS to Kumarabattor and payanalam	"	5-4-2000	448.00	"	583.00	"
60.	Vaniyamkulam WSS	"	"	361.00	"	400.00	"
61.	Pattambi Village	"	"	400.00	7-10-2002	460.00	"
62.	ARWSS to Kulukkallur-Nellaya Village	"	"	512.00	"	720.00	"
63.	ARWSS to Moorkkanad Phase I Moorkkanad	PH Division Malappuram	16-2-1999	265.00	27-3-2003	350.00	2007
64.	ARWSS to Moorkkanad Phase II (Kuruva)	"	"	510.00	"	650.00	2005
65.	ARWSS To Angadipuram Phase I Elamkulam	"	"	230.00	7-10-2002	320.00	"
66.	ARWSS To Angadipuram Phase II Pulamanthol	"	"	382.00	"	540.00	"

67.	ARWSS To Angadipuram Phase III Angadippuram	PH Division Malappuram	5-4-2000	600.00	7-10-2002	705.00	2005
68.	ARWSS to Moorkkanad Phase III Uzhakkattiri and Vadakkangara	„	„	550.00	„	630.00	2007
69.	ARWSS to Moorkkanad Phase IV Koothilangadi	„	„	610.00	„	675.00	„
70.	ARWSS to Moorkkanad Phase V Mankada	„	„	510.00	„	570.00	„
71.	CWSS to Akampadam	„	27-3-2003	222.00	..	..	..
72.	ARWSS to Irimbiliyam, Valanchery and Edayar pts.	PH Division Edappal	5-10-1993	272.00	..	..	2005
73.	ARWSS To Thirunavaya Villages Phase I	„	8-5-1998	1295.00	7-10-2002	3100.00	2006
74.	ARWSS to Thirunavaya Villages Phase 3	„	16-2-1999	495.00	„	1165.00	„
75.	ARWSS to Kunnummal Phase IV (Kayakkodi)	PH Division Vadakara	5-4-2000	251.00	„	300.00	2007
76.	ARWSS to Kunnummal Phase V (Tuneri)	„	16-2-1999	150.00	„	210.00	„
77.	ARWSS to Kunnummal Phase VI (Naripetta)	„	5-4-2000	295.00	„	345.00	2006
78.	ARWSS to Kunnummal Phase VII (Valayam)	„	„	307.00	„	340.00	„

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
79.	ARWSS to Kunnummal Phase VIII (Vanimal)	PH Division Vadakara	5-4-2000	355.00	7-10-2002	400.00	2006
80.	ARWSS to Paleri	PH Division Kozhikkode	27-3-2003	182	..	..	2007
81.	Thirunelly	PH Division S. Batheri	7-12-1995	510.00	..	..	2005
82.	Kaniyambetta	..	5-4-2000	425.00	27-3-2003	600.00	2006
83.	ARWSS to Padiyoor and Vayathur	PH Division Kannur	8-5-1998	444.00	..	630.00	2005
84.	Thrippangottoor	PH Division Mattannur	12-3-1996	320.00	..	..	2006
85.	ARWSS To Keezhoor and Chavassery	..	16-2-1999	437.00	7-10-2002	540.00	2005
86.	ARWSS to Panoor and Mokery	..	..	414.00	..	495.00	..
87.	ARWSS to Maloth and Balal	PH Division Kasargode	..	442.00	..	595.00	2006
88.	ARWSS to Badiadka and Neerchal Villages	..	5-4-2000	430.00	..	471.00	..
Total Estimate Amount of 88 schemes						52679.46	

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