

Water Management by Panchayat Raj institutions in Alappuzha District

Introduction

3.3.1 Water is one of the most important physical requirements of human beings. Communities and individuals use water resources for drinking, sanitation, agriculture, industry, transportation and several other purposes. It is not sufficient merely to have access to water; the water also needs to be of adequate quality to support its intended use. Alappuzha District in Kerala was identified as the worst hit district with no safe source and with acute problem of safe drinking water. There were also reports that tourist operators the world over had cautioned the prospective visitors to Alappuzha, not to use pipe water. Further, the water in the wells, ponds and back waters was polluted by the industrial wastes generated from the coir industry units, which were widespread in Alappuzha. Thus, a provision for drinking water of good quality was imperative for the health of the people of Alappuzha and for the economic future of the district.

Audit objectives

3.3.2 A review of the water management by Panchayat Raj Institutions in Alappuzha District was conducted during the period April-August 2005 to assess the effectiveness of the measures taken by them in:

- Maintenance of traditional drinking water sources.
- Preservation of ponds and tanks.
- Maintenance of waterways.
- Setting up of and maintenance of water supply schemes to ensure supply of potable water to the rural population.
- Effective implementation of watershed management.
- Extending assistance to individual beneficiaries to augment their efforts to meet water requirements and
- Ensuring quality of drinking water to prevent water borne diseases.

Audit coverage

1. **3.3.3** For the Review on water management, 25 out of 73 Grama Panchayats in the District, four out of 12 Block Panchayats, the District Panchayat, two Divisional offices of Kerala Water Authority (KWA), Office of the Chief Engineer (Southern Region), Kerala Water Authority (KWA) Thiruvananthapuram and Office of the District Medical Officer, Alappuzha were taken up.
2. **3.3.4** The profile and pattern of allotment of funds in respect of the 25 Grama Panchayats during the period 2000-2005 are given in **Appendix XIV & XV** respectively. On an average each Grama Panchayat was allotted Rs.68 lakh per annum as grants-in-aid from State Government, Eleventh Finance Commission Grant and Rural Infrastructure Development Fund.

Institutional structure for service delivery

3.3.5 The water management function assigned to each tier of Panchayat is given below:-
Government did not fix specific criteria for allotment of funds for water management schemes, except during 2004-05.

Grama Panchayats	Block Panchayats	District Panchayats
<ul style="list-style-type: none"> • Maintenance of traditional drinking water sources • Management of water supply schemes within a Grama Panchayat • Setting up of water supply schemes within a Grama Panchayat. • Preservation of ponds and other water tanks. • Maintenance of water ways. • Maintenance and implementation of all minor/micro irrigation projects 	<ul style="list-style-type: none"> • Implementation and maintenance of all lift irrigation and minor irrigation schemes covering more than one Grama Panchayat. 	<ul style="list-style-type: none"> • Implementation and taking over Water Supply Schemes covering more than one Grama Panchayat. • Construction and maintenance of minor irrigation schemes covering more than one Block Panchayat. • Development of ground water resources.

The functions of the three tiers of Panchayats are clearly delineated to avoid overlapping. None of the Panchayats covered in the review owned or managed water supply schemes. The sources of drinking water were open wells, bore wells and street taps and house connection maintained by KWA for which water charges were paid to the KWA by the Panchayats and the consumers respectively. Water from open wells, street taps and bore wells was used for drinking. The requirements for sanitation and irrigation were met by water drawn from wells, ponds and canals.

Water management by Grama Panchayats

Availability of funds - Poor allocation and under utilisation of funds

3.3.6 It was one of the statutory obligations of the Grama Panchayats to provide safe potable water to the rural inhabitants. Government did not fix specific criteria for allotment of funds for the purpose, except during 2004-05. Owing to lack of awareness of the importance of water management, the Grama Panchayats did not allocate adequate funds to cover the entire rural population as envisaged in the Ninth and Tenth Five Year Plans. Average utilisation

of funds for Water Supply Schemes by 25 Grama Panchayats in Alappuzha District during 2000-01 to 2004-05 was only Rs.1.27 lakh per Panchayat and it was 1.94 *per cent* of the total plan fund (**Appendix XV & XVI**) on an average as shown below.

Year	Total Plan fund allotted to the Grama Panchayats (Rs in lakh)	Funds utilised for WSS (Rs in lakh)	Average utilisation by a Panchayat (Rs in lakh)	Percentage of funds utilised for WSS to the total plan fund allotted to GPs
2000-01	1364.03	22.60	0.90	1.66
2001-02	1148.27	19.37	0.77	1.69
2002-03	1819.48	12.39	0.50	0.68
2003-04	2468.28	71.65	2.87	2.90
2004-05	1429.05	33.35	1.33	2.33
Total	8229.11	159.36	1.27	1.94

Short fall in utilisation of funds for water management in Productive Sector

3.3.7 Government in March 2004, ordered that one-third of the funds allocated to the productive sector * should be earmarked for Water Management Schemes during 2004-05. But the actual utilisation of funds during 2004-05 (**Appendix XVI**) for the Water Management Schemes in twenty five Grama panchayats was only 8.77 *per cent* as against the required quantum of 33.33 *per cent* as shown below:

Plan Fund allotted for Productive Sector -Rs.380.16 lakh

Fund that should have been allotted and

utilised for Water Supply Schemes - Rs.126.71 lakh (33.33 *per cent*)

Fund actually utilised -Rs.33.35 lakh (8.77 *per cent*)

Failure in providing drinking water to the rural population

3.3.8 Out of 1,65,380 households in 25 Grama Panchayats, 38,601 households did not have proper access to drinking water facilities such as open wells, piped water and bore wells (**Appendix XVII**). Twenty three *per cent* of the families had to depend on community taps, or wells of the neighbouring houses for drinking water. The Panchayats did not maintain updated registers showing the location or the date of installation of street taps for which they paid water charges to KWA. Consequently the panchayats paid water charges for street taps, the number of which exceeded the number as per the register of the panchayats. Due to non-implementation of protective measures to preserve surface water and due to uncontrolled sand mining, many of these open wells ran dry during summer. Further, as the houses of the BPL families were built in four or five cents of land, the latrines, cowsheds etc., constructed adjacent to open wells, contributed to the pollution of under-ground water.

Water quality monitoring programme

3.3.9 Quality of under ground water in Alappuzha district was not safe due to high concentration of chloride, fluoride and iron. Fluoride content was above the permissible limit of 1 ppm (mg/l) in almost all wells as reported by Kerala Water Authority (KWA). Because of the high fluoride content, Alappuzha was declared as an endemic area with respect to fluoride. A recent study by a

medical team revealed that 35.64 *per cent* of the school children in Ambalapuzha taluk were affected by dental fluorosis and its prevalence was 55.28 *per cent* in urban area. Possibility of defluorinating tube well water was found not viable due to technical and financial limitations. It was found not prudent to depend on ground water any more because of the increasing trend of salinity and depletion of ground water table.

1. **3.3.10** Mention was made in para 7.14.10 and 7.14.11 of the Report of Comptroller and Auditor General of India for the year ended 31 March 2001 (Civil), Government of Kerala regarding two Sub Mission projects sanctioned by Government of India during 1997-98 and eight projects by the State government during 1998-2000 at a total estimated cost of Rs.54.67 crore for controlling excess salinity and fluoride problem. But none of those projects was implemented. A comprehensive project viz. 'Augmentation of Rural Water Supply Scheme' to six villages in Ambalapuzha Taluk, costing roughly Rs.126 crore was formulated by Kerala Water Authority in 2004 to cover both the urban and rural areas. The water source of the Scheme was Pampa river at Cyclemukku where 10 metre diameter intake well cum pump house was also proposed. But due to paucity of funds these projects had not been implemented (August 2005).

2. **3.3.11** Though Alappuzha was identified as the worst hit district with no safe source (NSS) in the Annual Report on Quality Monitoring programme 1999-2000, prepared by the Chief Engineer Investigation, Planning and Design, Kochi, no safe source habitation could be provided and no scheme for control of salinity, fluoride, iron content etc., was planned and implemented by the PRIs so far.

Incidence of 3.3.12 A report from the District Medical Officer (June 2005) shown below **water borne diseases** revealed that incidence of water borne diseases continued, including casualties in the Alappuzha District.

continued Incidence of water borne diseases in Alappuzha district during 2002-05

Sl. No	Name of Disease	2002		2003		2004		2005A (up to pril)	
		Case	Death	Case	Death	Case	Death	Case	Death
1	Acute Water Diarrhoea	21393	Nil	20892	2	20868	Nil	6722	Nil
2	Cholera	35	Nil	3	Nil	1	Nil	Nil	Nil
3	Persistant Diarrhoea	129	Nil	95	Nil	52	Nil	5	Nil
4	Dysentery	1608	Nil	1267	Nil	988	Nil	199	Nil
5	Hepatitis – A	93	Nil	58	3	152	1	163	2

3.3.13 Despite the incidence of water borne diseases due to water pollution and unhygienic practices of the rural inhabitants, Government did not take any comprehensive measures to co-ordinate with the PRIs, KWA, Ground Water Department and Health Department to solve the acute problem of safe drinking water in Alappuzha.

Delay in implementation of Water Supply Schemes through Kerala Water Authority

1. **3.3.14** The plan fund deposited with KWA for implementing the water supply schemes was to be utilised within the financial year. During the period 2000-01 to 2004-05, 73 Panchayats in Alappuzha District entrusted 147 water supply schemes to KWA for execution as deposit works. The Panchayats paid the estimated cost of the schemes as advance, out of which Rs.1.81 crore

remained unadjusted at the end of 2004-05. As at 31 March 2005, the work relating to 114 schemes remained incomplete, leading to non-achievement of the social objectives targeted. The details are given below:

2. **3.3.15** The Panchayats failed to ensure the timely completion of water supply schemes by KWA for which the Panchayats had deposited the estimated amount in advance. The accountability obligation of the KWA towards legislature can be fulfilled only by executing the works within the financial year and by presenting the accounts of the schemes to the panchayats. Since the panchayats do not have any control over KWA, Government have to take suitable steps to ensure that the KWA execute the works in time and submit accounts to the panchayats

Year	No. of Schemes entrusted with KWA in the district	No. of schemes which remained incomplete	Advance amount pending with KWA (in Rupees)
2000-01	13	7	25,21,560
2001-02	14	-	() 2,839
2002-03	30	18	18,90,652
2003-04	75	74	1,13,12,074
2004-05	15	15	23,69,660
Total	147	114	1,80,91,107

Non-transfer of assets worth Rs.46.19 crore to PRIs

3.3.16 Government decided, in November 1998, to transfer all Water Supply Schemes within a Panchayat maintained by KWA to the Grama Panchayat concerned. In Alappuzha district, KWA listed for transfer 94 schemes belonging to 53 Grama Panchayats. The above schemes included 12148 street taps and 31435 domestic and 2233 non-domestic connections. The water charges payable by the Panchayats to KWA were Rs.2.13 crore per annum for the 12148 street taps at the rate of Rs.1750 per tap. The Grama Panchayats could not take over the schemes due to inadequacy of technical staff to maintain the schemes. The assets to be handed over (including arrears of water charges from local bodies and charges for house connection till the date of transfer) were valued at Rs. 46.19 crore. By taking over the assets worth Rs.46.19 crore, the Grama Panchayats would have been in a position to deliver better service in accordance with their expectations. Further, the domestic and non-domestic connections would have been a potential source of revenue to the Grama Panchayats.

Government did not transfer assets worth Rs46.19 crore to PRIs.

Non-preservation of ponds and other water tanks

3.3.17 Preservation of ponds and other water tanks is the function of the Grama Panchayats in terms of the third schedule of the Kerala Panchayat Raj Act, 1994. Ponds were originally used for domestic and irrigation purposes. But with the widespread digging of open wells and bore wells, use of the water in ponds was restricted to non-domestic and irrigation purposes. Ponds were filled with wastes generated from fish markets and other industrial discharges causing environmental pollution. In the projects formulated by the selected 25 Grama Panchayats during the period 2000-05, there was no provision for construction of retaining walls or for removal of wastes from ponds. Non preservation of surface water prevented improved level of underground water and supply of water for irrigation purposes.

Implementation of Minor Irrigation Schemes

3.3.18 Implementation of minor irrigation schemes is one of the important activities under water management. Sixteen out of 25 Grama Panchayats test checked had not implemented any minor irrigation scheme during the years 2000

-05. The number of schemes and expenditure incurred in each year by the remaining nine* Grama Panchayats were also very low as shown below:

Year	No of Panchayats	No. of Schemes	Expenditure incurred (Rs in lakh)
2000-01	5@	11	37.24
2001-02	5£	9	6.87
2002-03	3#	3	3.75
2003-04	5\$	17	11.87
2004-05	6•	11	32.00
Total		51	91.73

3.3.19 The number of minor irrigation projects taken up by the nine Grama Panchayats during the five years (2000 - 05) was only 51 and the expenditure incurred thereon was Rs.91.73 lakh. The amount, spent by the nine Grama Panchayats over a period of five years for implementing 51 minor irrigation schemes was very negligible and the Grama Panchayats could not make any achievement in irrigating the barren cultivable land.

Large scale filling up of paddy fields mainly due to poor water management.

3.3.20 Majority of the villagers seek their livelihood through cultivation of paddy, coconut, tapioca etc. But 1024.2 ha of cultivable paddy field in 11# Grama Panchayats (March 2005) remained barren due to lack of irrigation and drainage facilities, scarcity of agriculture labourers, low quality seeds, flood during rainy season etc. An area of 548.33 ha (March 2005) of paddy field was also filled up for shifting to other cultivations or for construction of buildings. Poor water management resulted in lack of irrigation and drainage facilities and consequent slow down of agricultural activities.

Water management by Block Panchayats

Failure to implement Water shed Management Scheme

3.3.21 Water shed (Neerthadam) is an area lying on either side of a river or rivulet starting from a hilly place down to an outlet point. Watersheds are categorised in five types namely micro, small, simple, sub and large watersheds based on the area in hectare covered ie. 1 ha to 100 ha, 100 ha to 1000 ha, 1000 ha to 10,000 ha, 10,000 ha to 50,000 ha and 50,000 ha and above respectively. The main objectives of watershed development are:

- conservation, upgradation and utilisation of environments like bird, water, plant, animal and human resources in an integrated manner,
- improvement of environment and restoration of ecological balance through scientific management of land and rain water
- generation of massive employment, and
- increase in irrigated areas.

3.3.22 Though the Tenth Five Year Plan was envisaged as ‘water shed oriented’, after identifying the water sheds in each Grama Panchayat, no action plan was discussed and formulated in the

Grama Sabhas. The Panchayat failed to evoke the interest of the people on such core issues. District Planning Committee also did not point out the lapse. None of the 87 water sheds identified by the twenty five Grama Panchayats was developed. Thus, during Tenth Five Year Plan the target of conservation and utilisation of natural resources based on water sheds could not be achieved.

Water management by District Panchayat

Idling of Funds with Ground Water Department consequent on noncompletion of works.

3.3.23 Ground Water Department (GWD) was entrusted with the construction of tube wells which were one of the sources of water supply schemes of the PRIs. In view of the urgent nature of the drought relief works, pipe laying was also entrusted to GWD as a special case. The District Panchayat, Alappuzha deposited Rs.71.66 lakh with the GWD between 2003-04 and 2004-05 for digging bore wells and tube wells and extension of pipe lines for drought relief works as detailed below.

(Rupees in lakh)

Year	Amount deposited	Amount utilised	Balance as on 2005	June
2003-04	32.39	3.66	28.73	
2004-05	39.27	1.06	38.21	
Total	71.66	4.72	66.94	

1. **3.3.24** The GWD utilised only *seven per cent* of the amount and Rs.66.94 lakh remained idle (June, 2005). When there remained an unspent balance of Rs.28.73 lakh at the end of 2003-04, there was no justification in further advancing Rs.39.27 lakh to the same Department in 2004-05. The idling of funds and the consequent non-attainment of social objectives was the result of non-monitoring of the schemes by the District Panchayat and non-fulfilment of obligations by the GWD. The District Panchayat and Government have to take necessary steps for the speedy implementation of the above schemes.

¶ .3.3.25 Conclusion

- The Panchayats test checked were facing shortage of drinking water and the quality of available drinking water was poor. The amount allocated and expended for this core sector was very small compared to the total fund allotted to the productive sector. None of the Panchayats had followed Government direction regarding earmarking of funds for water management schemes.

- The PRIs do not have any focused programme for protection and conservation of traditional sources of drinking water and ponds.

- Adequate attention was not paid to setting up and maintenance of water supply schemes. They failed to closely monitor implementation of schemes for which money was advanced to KWA. Though KWA was prepared to transfer certain water supply schemes to PRIs, they were not ready to take over and maintain them

- Ambitious project of water shed management could not take off due to lack of interest of the PRIs. Filling up of paddy fields and ponds led to drying up of wells resulting in shortage of availability of ground water.

- Due to poor quality of drinking water, incidence of water borne diseases were on the increase.