Agri Articles
(e-Magazine for Agricultural Articles)
Volume: 04, Issue: 01 (JAN-FEB, 2024)
Available online at http://www.agriarticles.com
©Agri Articles, ISSN: 2582-9882

Ground Water and Wells in Kanniyakumari

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Abstract
With the increase in the water requirement for various purposes such as domestic, industrial and agriculture, groundwater has been highly tapped and utilised throughout the state of Tamil Nadu. The district of Kanyakumari is no exception to this. Being known the consequences of groundwater depletion, it is important to know the status of the groundwater for carrying out any management practices.

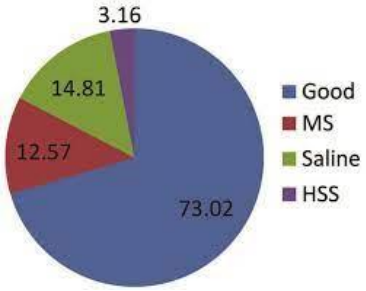
Introduction
The ever-increasing water requirement, failing monsoons and pollution of surface water has increased the use of groundwater. Even being the heavy rainfall district of Tamil Nadu, Kanyakumari too, has many wells and borewells and the management of these scarce resources is crucial for maintaining the groundwater levels.

Administrative Setup
The geographical extent of Kanyakumari district is 167184 ha. For administrative purpose the district has been bifurcated into 4 taluks, 9 blocks, and 18 Firkas.

Drainage
A major part of Kanyakumari district is drained by the principal rivers namely Kodayar and Paralayar and their tributaries. Kodayar River rises in the Agastiar Malai and flows in a southerly direction flowing for a length of 10 km from its origin, leading to natural drainage called the Kodayar Lake, which serves as the main source of irrigation system with an extensive command area in the district. Later, it flows in a south-westerly direction and south of Kuzhithurai and joins the Arabian Sea near Thengapatnam, which is at a distance of 56 km west of Cape Commerin. The river flows through rugged terrain through a succession of falls and cascades. One such fall lies south of Tiruparappu. Chittar-I and Chittar-II are the major tributaries of Kodayar. Tamirabarani, which is one of the important rivers of the district, which is flowing in the central part of the district and drain in the Melpuram, Kuzhithurai, Munchirai and Killiyur blocks. The river falls into Indian Ocean after traversing Killiyur block. The Pazhayar River originated at an altitude of 1300 m MSL in the Mahendragiri hills, and the river water taken away through channels for irrigation. The river Valliyar originated at an altitude of 950 m MSL at the Vallimalai Hills and has a very limited irrigation system. The length of the river is nearly 29 km, and period of flow of water in this river is for 6 months. Near Manavalakurichi the river joins in the Arabian Sea.

Rainfall
The Kanyakumari district received the rain under the influence of both southwest and northwest monsoons. The southwest monsoon chiefly contributes to the rainfall in the district. Most of the precipitation occurs in the form of cyclonic storms caused due to the depressions

in Bay of Bengal. The normal annual rainfall over the district varies from about 826 to 1456 mm. It is the minimum around Kanyakumari in the southeastern part of the district. It gradually increases towards west, north and northwest and attains a maximum around Thackalay. The highest humidity is generally recorded in May with the value of 95 percent whereas the minimum of 45 percent is recorded during February.



Wells and Borewells

The total number of borewells and wells in Kanyakumari is 522 and 1239 respectively. Inspite being the high rainfall region of Tamil Nadu, most of Kanyakumari's agricultural land is irrigated by groundwater. These statistics are exclusive of the household wells and bores. With the increase in population and implementation of various developmental projects, the burden on the groundwater is increasing as well as the number of wells and tubewells.

S. No.	Block	Net area irrigated by					Total Net Area irrigated
		Canals	Tanks	Tube/ Bore wells	Ordinary wells	Other Sources	
1	Thovala	4685	260	28	59	18	5050
2	Agastheeswaram	5215	449	0	315	0	5979
3	Rajakkamangalam	2335	638	494	577	0	4044
4	Thiruvattar	588	1112	0	12	94	1806
5	Thuckalay	1021	2529	0	19	3	3572
6	Kurunthancode	813	2199	0	185	4	3201
7	Munchirai	254	554	0	31	12	851
8	Killiyur	667	1058	0	35	52	1812
9	Melpuram	335	983	0	6	55	1379
	Total	**15913**	**9782**	**522**	**1239**	**238**	**27694**

(Source: Department of Economics & Statistics, Govt. of Tamil Nadu)

Block	Net Ground water Availability (M. Cum.)	Existing Gross Draft for Irrigation (M. Cum.)	Existing Gross Draft for Domestic and industrial water supply (M. Cum.)	Existing Gross Draft for all uses (M. Cum.)	Allocation for Domestic and Industrial Requirement supply up to next 25 years (2029) (M. Cum.)	Net groundwater Availability for future Irrigation Development (M. Cum.)	Stage of Ground Water Development (%)	Categor y of Block
Agastheeswaram	40.84	3.65	2.43	6.09	2.52	34.66	15	Safe
Killiyur	16.58	0.31	3.14	3.45	3.25	13.02	21	Safe
Kurunthancode	31.31	2.54	3.06	5.60	3.17	25.61	18	Safe
Melpuram	22.15	0.97	2.21	3.18	2.29	18.89	14	Safe
Munchirai	13.71	0.32	3.27	3.58	3.38	10.01	26	Safe
Rajakkamangalam	29.60	8.78	2.37	11.16	2.45	18.37	38	Safe
Thiruvattar	20.39	0.33	1.56	1.89	1.62	18.44	9	Safe
Thovala	51.65	2.46	0.96	3.43	1.00	48.19	7	Safe
Thuckalay	34.04	0.30	3.50	3.80	3.62	30.12	11	Safe
Total	**260.26**	**19.66**	**22.51**	**42.17**	**23.30**	**217.31**	**16**	

Conseravtion

The 3R principle should be remembered here.

- REDUCE the use of water.
- REUSE the used water for multiple times.
- RECYCLE- treatment of wastewater and then can be infiltrated.

Since Kanyakumari is in the high rainfall region, we can increase the amount of water percolating into the by the effective management of the watersheds. Rainwater harvesting and capturing and storing rainwater and run-off water underground can recharge the ground water levels.

Reference

1. https://www.twadboard.tn.gov.in/content/kanyakumari