केंद्रीय भूमि जल बोर्ड

जल संसाधन, नदी विकास और गंगा संरक्षण

विभाग, जल शक्ति मंत्रालय

भारत सरकार

Central Ground Water Board

Department of Water Resources, River Development and Ganga Rejuvenation,

Ministry of Jal Shakti

Government of India

AQUIFER MAPPING AND MANAGEMENT OF GROUND WATER RESOURCES

THENKARAIKOTTAI FIRKA, DHARMAPURI DISTRICT, TAMIL NADU

दक्षिण पूर्वी तटीय क्षेत्र, चेन्नई

South Eastern Coastal Region, Chennai

REPORT ON
AQUIFER DISPOSITION & MANAGEMENT PLAN
THENKARAIKOTTAI, FIRKA,
DHARMAPURI DISTRICT, TAMIL NADU STATE

	SALIENT FEATURES					
1	Name of the Firka/ Area (Sq.Km.)		:	THENKARAIKOTTAI	132.90 Sq.km	
	Revenue Division			Morappur		
	Location	Lat	:			
		Long	:			
2	Number of Revenue Villages		:	33		
3	District	State	:	Dharmapuri	TAMIL NADU	
4	Population (2011 Census)		:	54906		
5	Normal Rainfall (mm)		:		**916.18**	
				Monsoon	734.49	
				Non-monsoon	181.69	
6	Agriculture (2012-13) (Ha)					
			:	1. Gross Irrigated Area	3965.43	
				2. Paddy	622	
				3. Sugar cane	1093.81	
				4. Banana	25.78	
				5. Other Crops	2225	
				6. Groundwater	3916.5	
				7. Surface Water	154.88	
7	Existing and future water demands (ham)		:	Domestic & Industrial		
				Existing	89.92	
				Future(year 2025)	102.20	
8	Water Level Behviour (mbgl)		:	Pre-monsoon	7 – 17.20 m.bgl	
				Post-monsoon	2.20 – 8.98. m bgl	
	AQUIFER DISPOSITION					
9	Number of Aqifers		:	2		
10	3D Aquifer disposition and basic characteristics of each Aquifer		:	Geology- Gneiss and Charnockite		
				Aquifer I (Weathered Zone)		

				Thickness varies from	4.25 – 18.9 m
				Transmissivity (T):	2.3 – 45.8 m^2/day
				Specific Yield (Sy):	0.10 to 11 %
				Aquifer II (Fractured Zone)	
				Depth of fracturing varies from	19 – 197.5 m
				Transmissivity (T):	5.6 – 87.8 m^2/day
				Specific Storage (S):	0.000002 – 0.002
				Cumulative Yield (Aqifer I & II):	0.2 – 1.8 lps
11	Groundwater Issues		:	• Geogenic contamination by Fluoride. • Sustainability of wells (1-2 hrs).	
12	Groundwater Resource Availability and Extraction (2012-13)		:	Net Groundwater availability:	16.4841 MCM
				Gross Groundwater draft for irrigation:	25.2110 MCM
				Gross Groundwater draft for domestic & industrial supply:	0.8992 MCM
				Gross Groundwater draft:	26.1102 MCM
				Stage of Groundwater development:	158 %
				Category:	Over Exploited
13	Groundwater Extraction		:	Groundwater extraction structures (Numbers)	4150
				Bore wells:	164
				Dug wells:	3986
14	Chemical Quality of Groundwater, Contamination and its suitability		:		Min / Max
				EC (µS/cm)	Min: 700 and max:1500
				No3 (mg/l)	Min: 2 and max 18
				F (mg/l)	Min: 0.2 and Max:1.95

15	**Groundwater Recharge Scenario**					
15.1	Recharge from Rainfall (Monsoon)				7.5681 MCM	
15.2	Recharge from Other Sources (Monsoon)				7.3760 MCM	
15.3	Recharge from Rainfall (Non-monsoon)				1.5601 MCM	
15.4	Recharge from Other Sources (Non-monsoon)				1.8115 MCM	
15.5	Total Annual Groundwater Recharge				18.3157 MCM	
15.6	Natural Discharge				1.8316 MCM	
15.7	Existing Minor Irrigation Tanks (Area in Hectares)				100	
15.8	Storage from existing tanks (MCM)				3.55	
16	Storage from existing AR Structures (MCM)				4.092	

Fig -

CENTRAL GROUND WATER BOARD, SECR, CHENNAI

NATIONAL AQUIFER MAPPING

UPPER PONNAIYAR AQUIFER SYSTEM, TAMIL NADU

THENKARAIKOTTAI FIRKA

LOCATION MAP

NOT TO SCALE

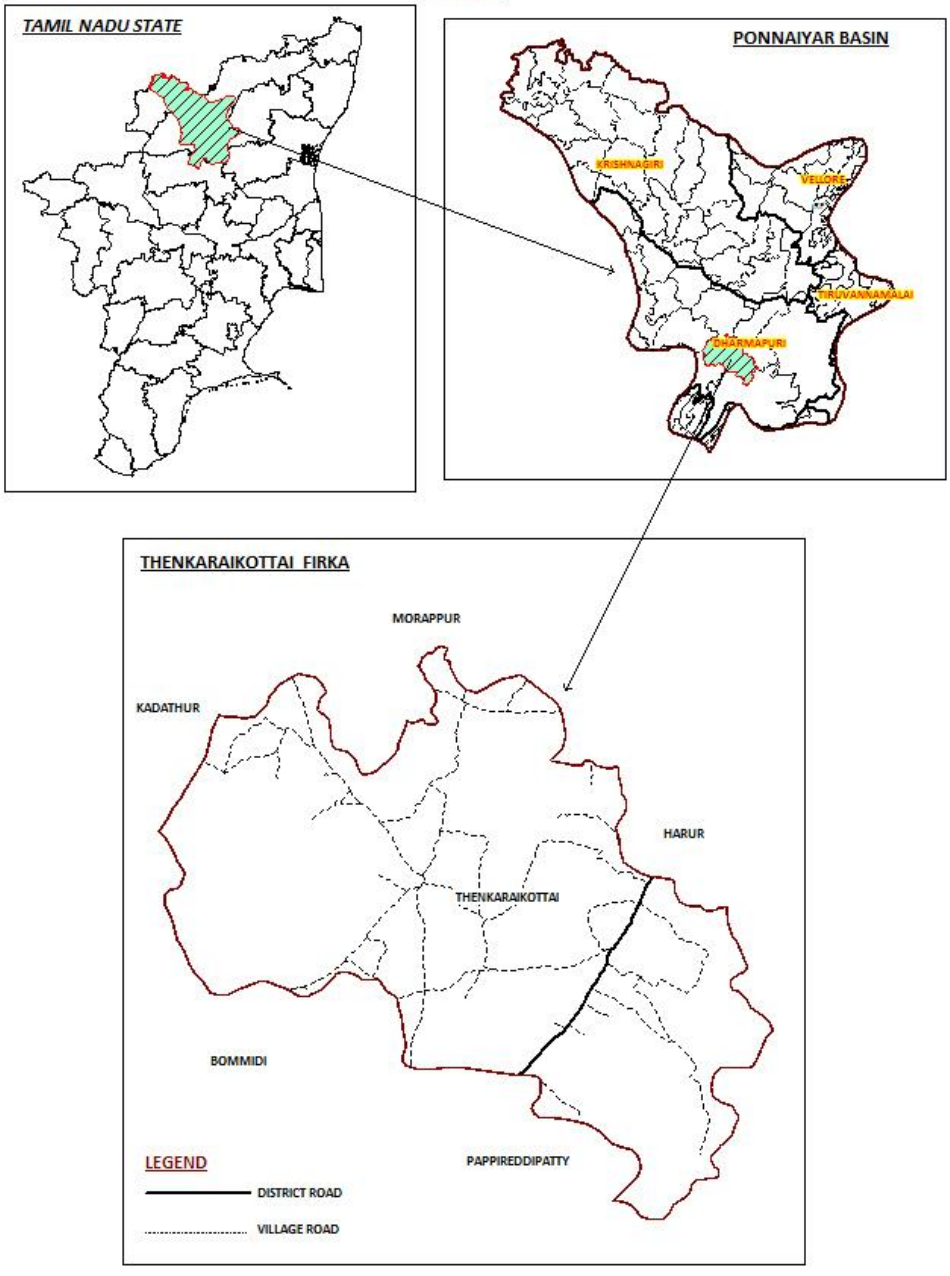

Fig-2: 3 D map and 2D - Sections.

3D Aquifer disposition map and Sections, Thenkaraikottai Firka, Dharmapuri District

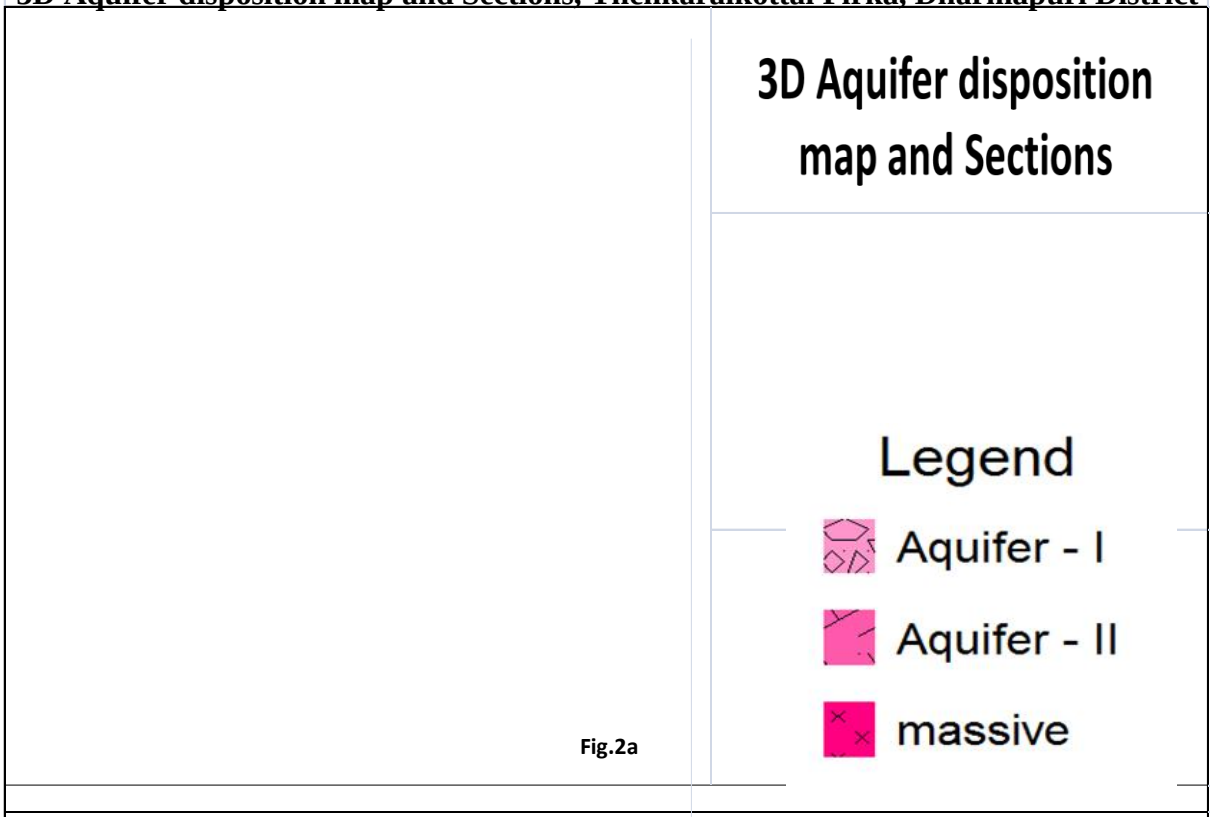

Fig.2a

N - S Section

SW-NE Section

Fig.2d