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

MORAPPUR FIRKA, DHARMAPURI DISTRICT, TAMIL NADU

दक्षिण पूर्वी तटीय क्षेत्र, चेन्नई

South Eastern Coastal Region, Chennai

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

SALIENT FEATURES

1	Name of the Firka/ Area (Sq.Km.)		:	MORAPPUR	169.76 Sq.km
	Revenue Division			Morappur	
	Location	Lat	:		
		Long	:		
2	Number of Revenue Villages		:	56	
3	District	State	:	Dharmapuri	TAMIL NADU
4	Population (2011 Census)		:	47337	
5	**Normal Rainfall (mm)**		:		**820.60**
				Monsoon	673.05
				Non-monsoon	147.55
6	**Agriculture (2012-13) (Ha)**			1. Gross Irrigated Area	3274.24
			:	2. Paddy	576.73
				3. Sugar cane	978.38
				4. Banana	19.30
				5. Other Crops	1574.41
				6. Groundwater	1574.41
				7. Surface Water	505.39
7	Existing and future water demands (ham)		:		131.28
				Domestic & Industrial	
				Existing	72.72
				Future(year 2025)	82.66
8	Water Level Behaviour (mbgl)		:	Pre-monsoon	5.43 – 24.4 m bgl
				Post-monsoon	3.93 –13.70 m bgl

AQUIFER DISPOSITION

9	Number of Aqifers	:	2
10	3D Aquifer disposition and basic characteristics of each Aquifer	:	Geology- Charnockite and Gniess
			Aquifer I (Weathered Zone)
			Thickness varies from 5.85 – 22.30 m

			Transmissivity (T):	5.2 – 78.4 m2/day
			Specific Yield (Sy):	0.08 to 11 %
			Aquifer II (Fractured Zone)	
			Depth of fracturing varies from	22.30 – 158.2 m
			Transmissivity (T):	6- 124.6 m2/day
			Specific Storage (S):	0.00001- 0.02
			Cumulative Yield (Aqifer I & II):	0.3 – 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:	15.2368 MCM
			Gross Groundwater draft for irrigation:	16.1200 MCM
			Gross Groundwater draft for domestic & industrial supply:	0.7272 MCM
			Gross Groundwater draft:	16.8472 MCM
			Stage of Groundwater development:	111%
			Category:	Over Exploited
13	Groundwater Extraction	:	Groundwater extrtaction structures (Numbers)	3832
			Bore wells:	88
			Dug wells:	3744
14	Chemical Quality of Groundwater, Contamination and its suitability	:		Min Max
			EC (µS/cm)	562 - 2620
			No_3 (mg/l)	1 - 66
			F (mg/l)	0.01 to 1.88
15	**Groundwater Recharge Scenario**			
15.1	Recharge from Rainfall (Monsoon)			6.7169 MCM
15.2	Recharge from Other Sources (Monsoon)			7.0185 MCM
15.3	Recharge from Rainfall (Non-			1.8406 MCM

	monsoon)	
15.4	Recharge from Other Sources (Non-monsoon)	1.3538 MCM
15.5	Total Annual Groundwater Recharge	16.9298 MCM
15.6	Natural Discharge	1.6930 MCM
15.7	Proposed area of farm pond (Area in Hectares)	1201
15.8	Storage from existing tanks (MCM)	2.898 MCM
16	Storage from existing AR Structures (MCM)	3.962 MCM

Fig -

CENTRAL GROUND WATER BOARD, SECR, CHENNAI

NATIONAL AQUIFER MAPPING

UPPER PONNAIYAR AQUIFER SYSTEM, TAMIL NADU

MORAPPUR FIRKA

LOCATION MAP

NOT TO SCALE

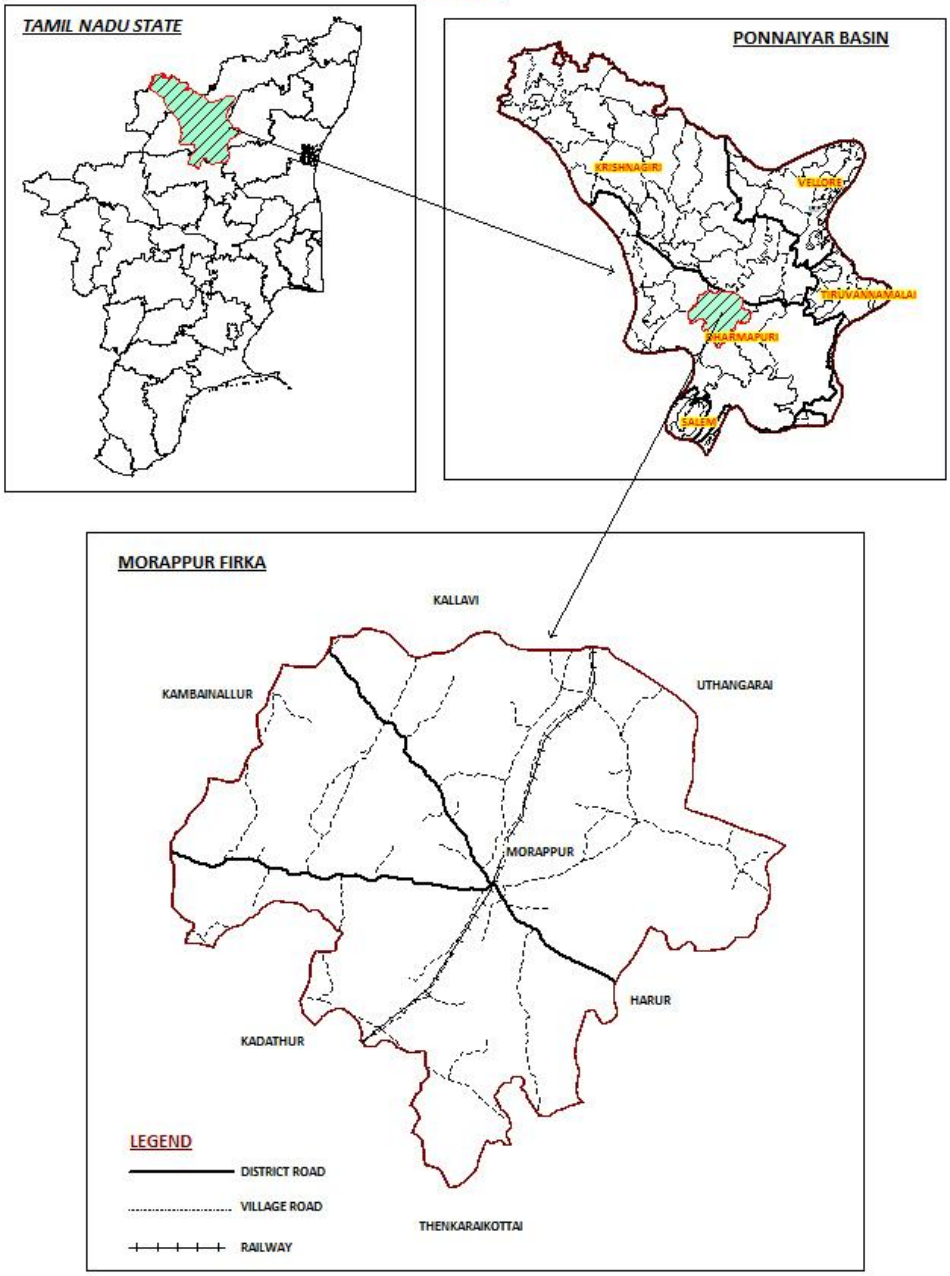

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Fig-2: 3 D map and 2D - Sections.