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

KAMBAINALLUR FIRKA, DHARMAPURI DISTRICT, TAMIL NADU

दक्षिण पूर्वी तटीय क्षेत्र, चेन्नई

South Eastern Coastal Region, Chennai

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

SALIENT FEATURES

1	Name of the Firka/ Area (Sq.Km.)		:	**KAMBAINALLUR**/120.97 Sq.km	
	Revenue Division			Kariamanagalam	
	Location	Lat	:		
		Long	:		
2	Number of Revenue Villages		:	12	
3	District	State	:	Dharmapuri/ TAMIL NADU	
4	Population (2011 Census)		:	33524	
5	**Normal Rainfall (mm)**		:		**1011.76**
				Monsoon	795.93
				Non-monsoon	215.83
6	**Agriculture (2012-13) (Ha)**			1. Gross Irrigated Area	4173.90
			:	2. Paddy	536.0
				3. Sugar cane	691.03
				4. Banana	16.94
				5. Other Crops	1243.97
				6. Groundwater	3658.20
				7. Surface Water	317.55
7	Existing and future water demands (ham)		:	Domestic & Industrial	
				Existing	49.66
				Future(year 2025)	56.44
8	Water Level Behaviour (mbgl)		:	Pre-monsoon	
				Post-monsoon	

AQUIFER DISPOSITION

9	Number of Aquifers	:	2
10	3D Aquifer disposition and basic characteristics of each Aquifer	:	Geology- Charnockite and Gneiss
			Aquifer I (Weathered Zone)

			Thickness varies from	5.7 – 22.5 m
			Transmissivity (T):	6.59 – 29.7 m^2/day
			Specific Yield (Sy):	0.10 – 0.12 %
			Aquifer II (Fractured Zone)	
			Depth of fracturing varies from	22.5 – 151 m
			Transmissivity (T):	5.6 – 121.2 m^2/day
			Specific Storage (S):	0.00002 – 0.002
			Cumulative Yield (Aquifer I & II):	0.5 – 3.5 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:	16.2864 MCM
			Gross Groundwater draft for irrigation:	19.3138 MCM
			Gross Groundwater draft for domestic & industrial supply:	0.4966 MCM
			Gross Groundwater draft:	19.8103 MCM
			Stage of Groundwater development:	122%
			Category:	Over Exploited
13	Groundwater Extraction	:	Groundwater extraction structures (Numbers)	3770
			Bore wells:	85
			Dug wells:	3685
14	Chemical Quality of Groundwater, Contamination and its suitability	:		Min Max
			EC (µS/cm)	557 - 3220
			No_3 (mg/l)	4 - 197
			F (mg/l)	0.04 – 2.78

15 Groundwater Recharge Scenario

15.1	Recharge from Rainfall (Monsoon)	8.3907 MCM
15.2	Recharge from Other Sources (Monsoon)	6.3043 MCM
15.3	Recharge from Rainfall (Non-monsoon)	1.9130 MCM
15.4	Recharge from Other Sources (Non-monsoon)	1.4881 MCM
15.5	Total Annual Groundwater Recharge	18.0960 MCM
15.6	Natural Discharge	1.8096 MCM
15.7	Existing Minor Irrigation Tanks (Area in Hectares)	100
15.8	Storage from existing tanks (MCM)	3.95
16	Storage from existing AR Structures (MCM)	4.45

CENTRAL GROUND WATER BOARD, SECR, CHENNAI

NATIONAL AQUIFER MAPPING

UPPER PONNAIYAR AQUIFER SYSTEM, TAMIL NADU

KAMBAINALLUR FIRKA

LOCATION MAP

NOT TO SCALE

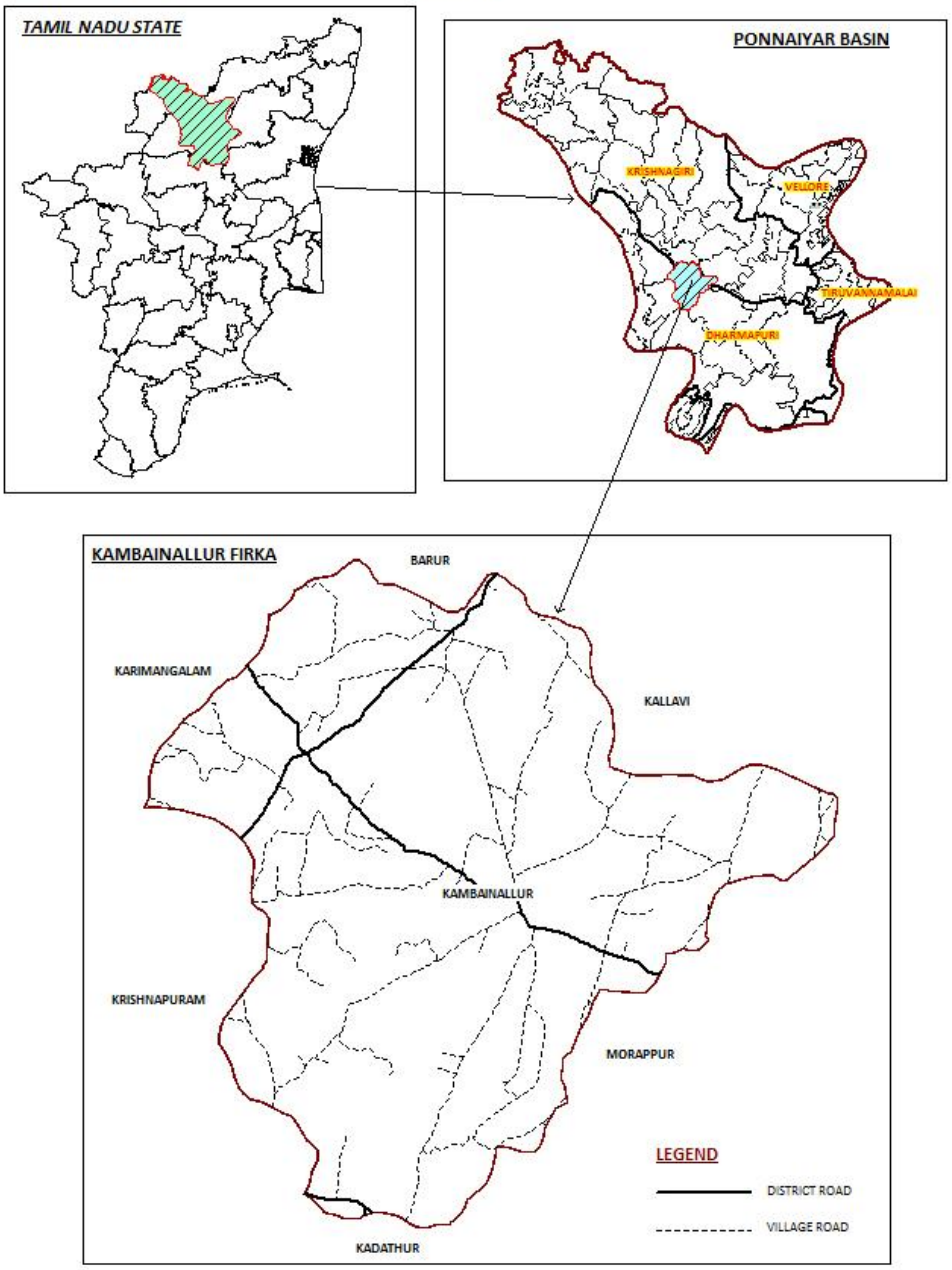

Fig-2: 3 D map and 2D - Sections.

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

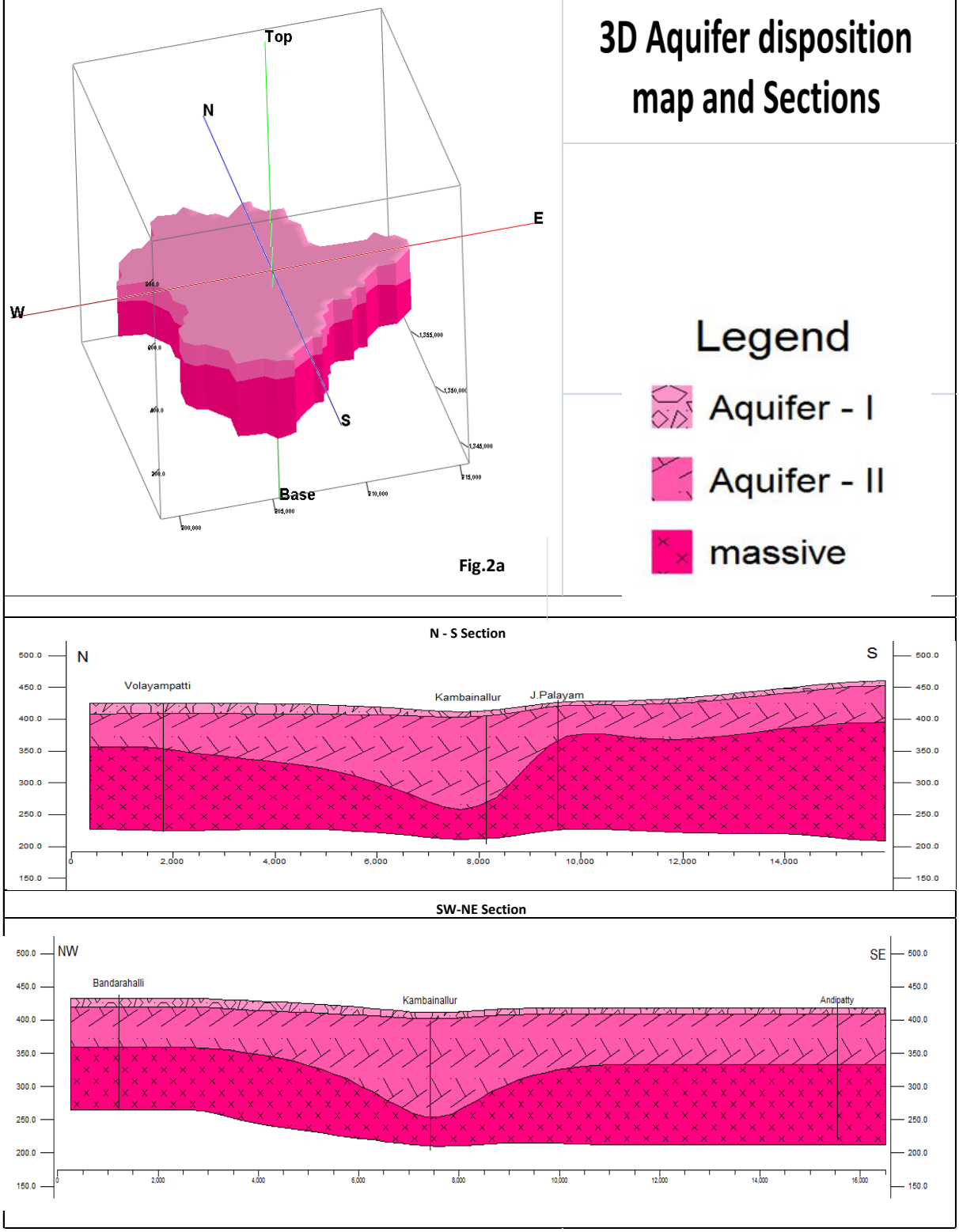

Fig.2a