



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

**VEPPANAPALLI FIRKA, KRISHNAGIRI DISTRICT,
TAMIL NADU**

दक्षिण पूर्वी तटीय क्षेत्र, चेन्नई

South Eastern Coastal Region, Chennai

Management Plan - Veppanapalli Firka, Krishnagiri District.

Area:	104.45 Sq. Km
Monsoon Rainfall :	678 mm
Stage of groundwater development :	254.48 %
Uncommitted surface runoff/flow :	10.62 MCM.
Total volume of Weathered zone available (Rechargeable) :	12.53 MCM. (8.00m thickness)
Total volume of weathered zone available (Rechargeable) :	7.83 MCM (considering 5 m thickness).
Area are suitable for recharge :	90 % (As per integration studies)
Quantity Rechargeable:	2.74 MCM
Effect on Water Level:	1.94 m Rise
Cost Involved:	23.055 Crore

Management Plan - Veppanapalli Firka, Krishnagiri District.

Feasible Artificial Recharge & Water Conservation structures/ activities	Tentative Design	quantity (in nos. or area in sq. m)	Total volume (cu.m)	Tentative unit cost (in Rs lakh)	Total tentative cost (in Rs lakh)	Expected Annual GW recharge (cu.m)
Recharge Structures/ Activities						
Masonry Check dams (4 Fillings)	Crest- 10 -15 m; Height- 0.5 m to 1 m	10	300 (60%)	15.0	300	7200
Nala bunds / Gabion (4 Fillings)	Width: 5 to 15 m	30	150 (60%)	2.0	60	10800
Recharge shaft (ON ROAD SIDE)	(1.5 m dia. with bore well up to 17 m)	100	77.2(60%)	4.0	320	4632
Revival, repair of water bodies (3 fillings)	Shaft = 1.5 m dia x 2m h Recharge= area of the smaller tanks x 1.0 m	42	1110000* 1* 3 (60%)	28.0 (25+3)	1260	1998000
Recharge shaft with the pond /tanks/canals (3 fillings)	Shaft = 3.0 m dia x 3m h Recharge=(20% of the total area of the big tanks)	2	60000* 1.0*3	5.0	10	180000
Farm Pond (in ha) (4 filling)	(30 m x 30m x 1.5 m) 900 sq.m or 0.1 ha	100 unit	1350x4	1	100	540000
				Sub Total	2130	2740632
Water Conservation Activities						
Sprinkler/ drip/ HDPE pipes for 300 ha select area	For 1 ha with 5 m interval HDPE pipe	100 ha		0.6 /ha	60	300000
Sub total					2190	
Impact assessment and O & M						
Piezometers Up to 50 m bgl – 10 nos. @ 0.6 lakh (Impact assessment to be carried out by the implementing agencies)					6	
O & M - 5 % of total cost of the scheme					109.50	
TOTAL					2305.50	

Tentative sites for proposed artificial recharge structures, Veppanapalli firka

S.NO	LONGITUDE	LATITUDE	TYPE OF ARS
1	78.12	12.78	NALA BUND
2	78.11	12.79	NALA BUND
3	78.11	12.78	NALA BUND
4	78.07	12.78	NALA BUND
5	78.07	12.80	NALA BUND
6	78.12	12.80	NALA BUND
7	78.07	12.76	NALA BUND
8	78.05	12.76	NALA BUND
9	78.10	12.77	NALA BUND
10	78.15	12.75	NALA BUND
11	78.15	12.76	NALA BUND
12	78.13	12.76	NALA BUND
13	78.13	12.76	NALA BUND
14	78.14	12.77	NALA BUND
15	78.19	12.77	NALA BUND
16	78.19	12.77	NALA BUND
17	78.21	12.74	NALA BUND
18	78.21	12.73	NALA BUND
19	78.18	12.69	NALA BUND
20	78.15	12.72	NALA BUND
21	78.15	12.73	NALA BUND
22	78.15	12.71	NALA BUND
23	78.15	12.70	NALA BUND
24	78.15	12.76	NALA BUND
25	78.14	12.77	NALA BUND
26	78.17	12.77	NALA BUND
27	78.18	12.77	NALA BUND
28	78.18	12.77	NALA BUND
29	78.22	12.73	NALA BUND
30	78.21	12.72	NALA BUND
31	78.12	12.77	CHECK DAM
32	78.10	12.81	CHECK DAM
33	78.16	12.75	CHECK DAM
34	78.14	12.73	CHECK DAM
35	78.15	12.76	CHECK DAM
36	78.14	12.77	CHECK DAM
37	78.09	12.74	CHECK DAM
38	78.10	12.76	CHECK DAM
39	78.19	12.77	CHECK DAM

S.NO	LONGITUDE	LATITUDE	TYPE OF ARS
40	78.11	12.73	CHECK DAM
41	78.10	12.81	RR CUM RS
42	78.09	12.76	RR CUM RS
43	78.12	12.78	RR CUM RS
44	78.13	12.74	RR CUM RS
45	78.14	12.72	RR CUM RS
46	78.14	12.72	RR CUM RS
47	78.14	12.73	RR CUM RS
48	78.13	12.75	RR CUM RS
49	78.15	12.74	RR CUM RS
50	78.16	12.74	RR CUM RS
51	78.16	12.75	RR CUM RS
52	78.16	12.74	RR CUM RS
53	78.16	12.74	RR CUM RS
54	78.16	12.74	RR CUM RS
55	78.16	12.73	RR CUM RS
56	78.16	12.73	RR CUM RS
57	78.16	12.71	RR CUM RS
58	78.15	12.69	RR CUM RS
59	78.15	12.69	RR CUM RS
60	78.16	12.69	RR CUM RS
61	78.16	12.70	RR CUM RS
62	78.17	12.70	RR CUM RS
63	78.17	12.70	RR CUM RS
64	78.18	12.70	RR CUM RS
65	78.18	12.70	RR CUM RS
66	78.19	12.71	RR CUM RS
67	78.18	12.73	RR CUM RS
68	78.20	12.72	RR CUM RS
69	78.21	12.75	RR CUM RS
70	78.22	12.73	RR CUM RS
71	78.23	12.75	RR CUM RS
72	78.23	12.75	RR CUM RS
73	78.23	12.74	RR CUM RS
74	78.21	12.70	RR CUM RS
75	78.20	12.69	RR CUM RS
76	78.20	12.68	RR CUM RS
77	78.21	12.68	RR CUM RS
78	78.21	12.68	RR CUM RS
79	78.22	12.68	RR CUM RS

S.NO	LONGITUDE	LATITUDE	TYPE OF ARS
80	78.23	12.68	RR CUM RS
81	78.19	12.71	RR CUM RS
82	78.19	12.70	RR CUM RS
83	78.14	12.74	RS
84	78.14	12.74	RS

