



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

**VALAPPADI FIRKA, SALEM DISTRICT,
TAMIL NADU**

दक्षिण पूर्वी तटीय क्षेत्र, चेन्नई

South Eastern Coastal Region, Chennai

Management Plan-Valappadi Firka, Salem District.

Area:	96.27 Sq.Km
Monsoon Rainfall :	738 mm
Stage of groundwater development :	231.59 %
Uncommitted surface runoff/flow :	10.66 MCM.
Total volume of Weathered zone available (Rechargeable) : Thickness)	11.55 MCM. (8.00m
Total volume of weathered zone available (Rechargeable) : m thickness).	7.22 MCM (considering 5
Area suitable for recharge : studies)	78 % (As per integration
Quantity Rechargeable:	0.48 MCM
Effect on Water Level:	0.33 m Rise
Cost Involved:	7.158 Crore

Management Plan-Valappadi Firka, Salem 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	17	300	30.0	510	20400
Nala bunds/ Gabion (4 Fillings)	Width: 5 to 15 m	10	150	2.0	20	6000
Revival, repair of water bodies (3 fillings)	(~100mx100mx1m)	6	30000	6	36	180000
Recharge shaft with the pond /tanks	(1.5 m dia. with bore well up to 17 m)	6		5	30	
Water Conservation Activities						
Farm Pond (in ha) (4 filling)	(30 m x 30m x 1.5 m) 900 sq.m or 0.1 ha	50 unit	1350	1	50	270000
Sprinkler/ drip/ HDPE pipes for 300 ha select area	For 1 ha with 5 m interval HDPE pipe	50 ha		0.6 /ha	30	
Sub total					676	476400
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					33.8	
TOTAL					716.00	

Tentative location of proposed one Check dam in Vazhapdifirka

S.No	Longitude	Latitude	Structure
1	78.3535	11.6391	Check Dam
2	78.3715	11.6434	Check Dam
3	78.3138	11.5921	Check Dam
4	78.3212	11.5913	Check Dam
5	78.3462	11.5905	Check Dam
6	78.3227	11.5669	Check Dam
7	78.3576	11.5718	Check Dam
8	78.3295	11.5438	Check Dam
9	78.3317	11.5467	Check Dam
10	78.3484	11.5636	Check Dam
11	78.3757	11.6001	Check Dam
12	78.3749	11.5978	Check Dam
13	78.359	11.6028	Check Dam
14	78.3708	11.6246	Check Dam
15	78.3787	11.6572	Check Dam
16	78.4127	11.6518	Check Dam

Tentative location of proposed three Nalla bunds in Vazhapadi firka

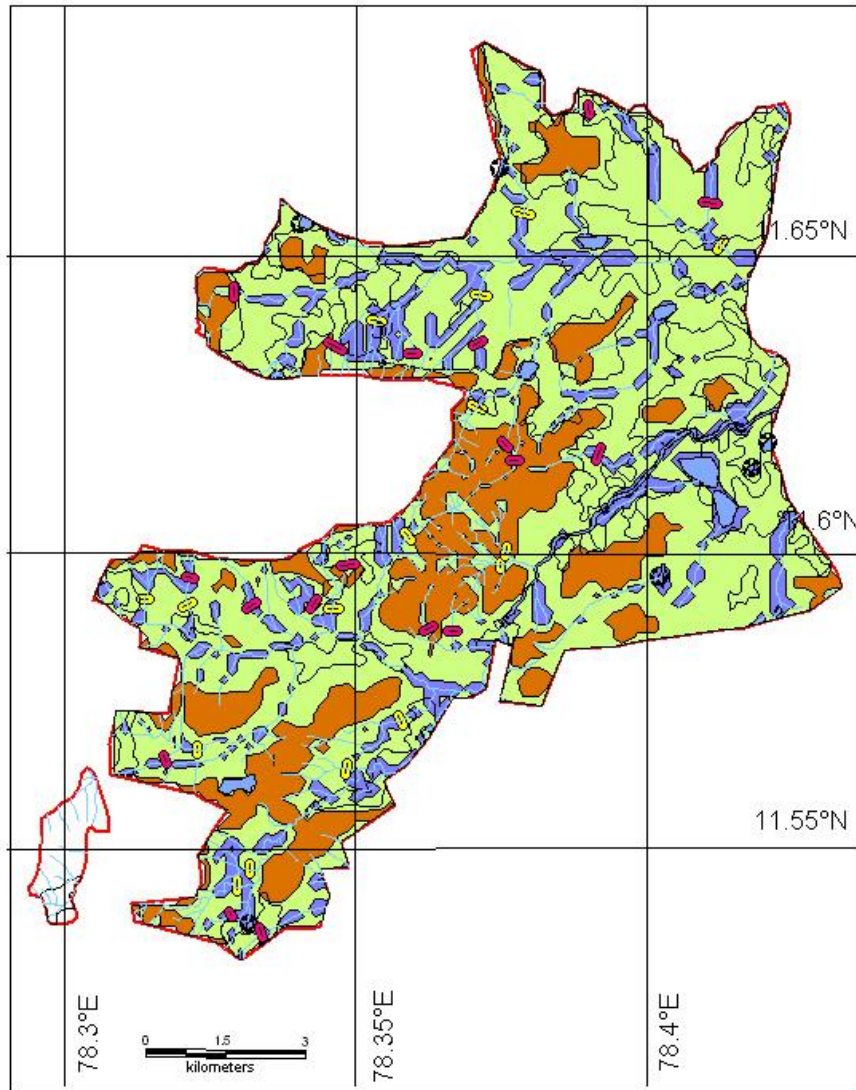
S.No	Longitude	Latitude	Structure
1	78.3414	11.5176	Nalla Bund
2	78.3174	11.5153	Nalla Bund
3	78.3174	11.5159	Nalla Bund
4	78.3242	11.5152	Nalla Bund
5	78.3242	11.5159	Nalla Bund
6	78.3345	11.5152	Nalla Bund
7	78.3345	11.5159	Nalla Bund
8	78.3139	11.5176	Nalla Bund
9	78.3277	11.5176	Nalla Bund
10	78.3277	11.5132	Nalla Bund

Tentative location of proposed de-siltation of pond/tanks with recharge shaft in Vazhapadi firka.

S.No	Longitude	Latitude	Structure
1	78.3317	11.5374	Desiltation with recharge shaft
2	78.3747	11.6647	Desiltation with recharge shaft
3	78.4022	11.5958	Desiltation with recharge shaft
4	78.4181	11.6143	Desiltation with recharge shaft
5	78.4211	11.6184	Desiltation with recharge shaft
6	78.3407	11.6553	Desiltation with recharge shaft

Artificial recharge structures (Proposed)

Vazhapadi Firka, Vazhapadi Taluk, Salem District, Tamil Nadu



Explanation

Area suitable for recharge

- Very High
- High
- Moderate
- Poor

Area suitable for recharge

- Nalla Band
- Check dam
- ★ Desiltation of tanks cum recharge shaft
- Area suitable for micro irrigation and farm pond

- water body
- Stream