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GOVERNMENT OF INDIA
MINISTRY OF WATER RESOURCES,
RIVER DEVELOPMENT & GANGA REJUVENATION
CENTRAL GROUND WATER BOARD

PLAN ON
ARTIFICIAL RECHARGE TO GROUNDWATER AND
WATER CONSERVATION IN
KALYANDURG MANDAL, ANANTAPUR DISTRICT,
ANDHRA PRADESH

SOUTHERN REGION
HYDERABAD
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PLAN ON
ARTIFICIAL RECHARGE TO GROUNDWATER AND
WATER CONSERVATION IN
KALYANDURG MANDAL, ANANTAPUR DISTRICT,
ANDHRA PRADESH

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AT A GLANCE

Name of the Mandal	KALYANDURG
District	ANANTAPUR
State	ANDHRA PRADESH
Total Area (Sq.kms)	358
Area suitable for Artificial Recharge (Sq.kms)	311
Latitude and Longitude	14.32440 to 14.638300 and 77.069260 to 77.369930
Average Annual Rainfall (mm)	542
Geology	Granites, Gneisses
Average Depth To Water Level (Decadal) (Pre Monsoon)	4.75
Average Depth To Water Level (Decadal) (Post Monsoon)	1.7
Ground Water Resources (2011)	
Annual Replenishable Ground Water Resources (MCM/yr)	27.91
Net Annual Ground Water Availability(MCM)/yr	23.83
Net Annual Ground Water Draft(MCM)/yr	28.52
Projected Demand for Domestic and Industrial Use(MCM)/yr	3.12
Stage of Ground Water Development (%)	120
Surface runoff available (MCM)/yr	20.34
Total Storage Created in the Mandal by Various Agencies (MCM)/yr	3.51
Artificial Recharge/Conservation Measures	
Recharge Structures Proposed (No.s)	Percolation Tanks: 5, Check Dams: 12 Farm ponds: 400, Recharge Shafts: 248
Improving Water use Efficiency	Micro Irrigation System: 2000 ha
Tentative Total Cost in Lakhs (Rs.)	1695.225
Expected Recharge/Savings (MCM)/yr	9.407

1. INTRODUCTION

Kalyandurg Mandal is one of the over-exploited mandal in Anantapur district, Andhra Pradesh State, which is economically backward and chronically drought affected. The mandal has 13 inhabited villages 20 gram panchayats.

2. LOCATION

The mandal lies between north latitudes 14.32440 to 14.638300 and between east longitudes 77.069260 to 77.369930. The mandal occupies the Western part of the Anantapur district and is bounded on the north by Beluguppa Mandal, on the east by Atmakur mandal, on the south by Kambadur mandal and west by Brahmasamudram mandal. (Fig.1) The geographical area of the mandal is 358 sq.km.

3. PHYSIOGRAPHY AND DRAINAGE:

The area is drained by streams which are tributaries of Lower Thungabhadra river. The streams are mostly ephemeral in nature. The drainage pattern is dendritic, rectangular to sub rectangular due to the influence of geological structures. (Fig.2)

4. RAINFALL

The average rainfall in the mandal is 542 mm. The rainfall during the South-west monsoon season i.e., June-September accounts for about 85% of the total rainfall.

5. LAND USE PATTERN

Out of the total geographical area of 358 sq.km, the area covered by forest is 46.81 sq.km and the net area sown is 364.56 sq.km. Barren and uncultivable land is 17.32 sq.km. The land for non agricultural use accounts for 27.02 sq.km..(Fig.3)

6. HYDROGEOLOGY

The Mandal is underlain by granites and granitic gneisses of Archaean age (fig-4). The ground water in these formations occurs in the weathered and fractured zones under the water table and Semi- Confined conditions. The weathered zone thickness as per the GEC report is 9 m. The weathered zone has been extensively tapped by dug and dug cum bore wells up to 20 m depth. Ground water occurs in fractured granites down to a depth of 200 m bgl. However, the potential fractures are encountered between 50-100 m bgl. The cumulative yield varies from 2-5 lps.

7. GROUND WATER LEVEL SCENARIO

The depth to water level during pre and post-monsoon varies from 5 to 20 m bgl. The depth to water levels maps for pre and post monsoon period (2014) are shown in (Figs 5 & 6 respectively.). The decadal mean water level trend during post monsoon is depicted in the Fig.7.

8. DYNAMIC GROUND WATER RESOURCES

The Ground water availability, Utilization and stage of Development in Kalyandurg Mandal, Ananthapur District is given in Table-1.

Table-1: Ground water resources of Kalyandurg Mandal, Anantapur District.

Annual Replenishable Ground water resources (MCM)	27.91
Net Annual Ground water Availability. (MCM)	23.83
Net Annual Ground Water Draft(MCM)/yr	28.52
Projected Demand for Domestic and Industrial use up to 2025. (MCM)	3.12
Stage of Ground water development (%).	120
Whether notified or not with year of notification.	No

9. NEED FOR ARTIFICIAL RECHARGE AND CONSERVATION METHODS

The ground water withdrawal is more than the recharge with a stage of development above hundred percent. The long term water level trend mostly shows a declining trend and the water levels are very deep ranging upto 10mbgl. The sustainability of bore wells has become questionable as many bore wells are either drying up or have recorded reduced yields. There is no surface water irrigation facility in the area. All these factors indicate that there is an urgent need for artificial recharge and water conservation.

10. JUSTIFICATION OF THE ARTIFICIAL RECHARGE PROJECT

Kalyandurg Mandal falls under high stage of ground water development i.e., 120 % and with sufficient amount of uncommitted surface runoff. The area is completely dependent on ground water for domestic industrial and irrigation purposes. During the monsoon runoff quickly flows out of the area without natural recharge to ground water. It is necessary to apply artificial recharge techniques to allow more and more recharge through check dams, PTs, MPTs, farm ponds, recharge shafts to cope up with the withdrawal pattern and also to improve ground water situation through various interventions including on farm activities and micro irrigation systems (Sprinkler-Drip-HDPE).

11. AVAILABILITY OF SURPLUS, SURFACE WATER FOR ARTIFICIAL RECAHRGE OR CONSERVATION

The runoff was calculated by taking into account of normal rainfall of the mandal and corresponding runoff yield from Strangers table. The existing storage created by various artificial recharge structures constructed by the State Government, if any, was deducted for calculating the runoff yield to recommend new AR structures.

Total Geographical area (Sq.kms)	358
Hilly Area (Sq.kms)	47
Area suitable for Artificial Recharge (sq.km.)	311
Runoff Yield in MCM/yr.	20.34
Existing No. of Check Dams	322
Storage created MCM/yr.	2.28
Existing No. of Percolation Tanks	173
Storage created MCM/yr.	1.22
Total Existing Storage Created	3.51

12. FEASIBLE ARTIFICIAL RECHARGE STRUCTURES

Since the mandal is categorized as over exploited, there is an immediate need for improving ground water scenario and to ensure sustainability of ground water sources. It is also suggested to create additional storage capacity of surface water bodies which would result in supplementing irrigation thereby reducing the ground water draft. The run off available in the mandal has been assessed as 16.83 MCM/yr, which could be considered for further planning of artificial recharge. However, the number of artificial recharge structures feasible has been recommended in areas, by considering the utilizable yield, number of existing structures, land use, drainage pattern and also where the post monsoon water levels (decadal mean) are more than 5 m bgl., and or decadal trends are either falling or showing insignificant raising trend.

A) Check dams and Percolation Tanks

The area is covered by seasonal nalas – drains, which carry discharge during monsoon period debauched into the water bodies within a short duration. It is proposed to identify such nalas for construction of check dams/Percolation tank with recharge shafts, so as to harness ground water and to increase soil moisture content.

- The site selected for check dam/Percolation Tank should have sufficient thickness of permeable soils or weathered material to facilitate recharge of stored water within a short span of time. The water stored in these structures are mostly confined to the stream course and height is normally less than 2m.
- These are designed based on stream width and excess water is allowed to flow over the crest wall. In order to avoid scouring from excess runoff water cushions are provided on the downstream side. To harness maximum runoff in the stream, a series of such check dams can be constructed to have recharge on a regional scale.
- Considering the annual monsoon rainfall of 542 mm sufficient rain water can be harnessed. This will improve ground water regime as well as delaying the instant flow into the main river.
- The flow in these seasonal rivers can be sustained up to about 2 to 3 months after monsoon.

- Recharge trenches can also be constructed along upstream side of the check dam/Percolation Tank in the impoundment area for enhancing the ground water recharge rates.

Thus, a total of **12 Check dams and 5 Percolation tanks** are recommended.

B). Recharge Shafts

The existing check dams and percolation tanks lose their storage capacity as well as recharge capacity due to siltation. Hence, Recharge shafts are recommended in the existing Check dams and Percolation tanks to enhance the ground water recharge. During the heavy downpours, there will be sufficient accumulation of runoff, which can also effectively be utilized for recharge by constructing recharge shafts. Hence, it is proposed to construct 161 and 87 recharge shafts of 165 mm dia with 30 m depth in the existing check dams and percolation tanks respectively.

C). Farm Ponds

A farm pond is a large dug out in the earth, usually square or rectangular in shape, which harvests rainwater and stores it for future use. It has an inlet to regulate inflow and an outlet to discharge excess water. The pond is surrounded by a small bund, which prevents erosion on the banks of the pond. The size and depth depend on the amount of land available, the type of soil water from the farm pond is conveyed to the fields manually, by pumping, or by both methods.

Advantages of Farm Ponds

- They provide water to start growing crops, without waiting for rain to fall.
- They provide irrigation water during dry spells between rainfalls. This increases the yield, the number of crops in one year, and the diversity of crops that can be grown.
- Bunds can be used to raise vegetables and fruit trees, thus supplying the farm household with an additional source of income and of nutritious food.
- Farmers are able to apply adequate farm inputs and perform farming operations at the appropriate time, thus increasing their productivity and their confidence in farming.
- They check soil erosion and minimize siltation of waterways and reservoirs.
- They supplies water for domestic purposes and livestock
- They promote fish rearing.
- They recharge the ground water.
- They improve drainage.

- The excavated earth has a very high value and can be used to enrich soil in the fields, levelling land, and constructing farm roads.

As per the Land use classification, majority of the area is covered by the agricultural field. Hence, it is proposed to construct 400 farm ponds in 20 villages of the Mandal @ 20 farm ponds in each village.

D). Micro Irrigation System (Sprinkler /drip/HDPE pipes)

Micro irrigation is defined as the frequent application of small quantities of water directly above and below the soil surface; usually as discrete drops, continuous drops or tiny streams through emitters placed along a water delivery line. In flood/furrow irrigation method more than 50% of applied water is wasted through seepage to deeper level, localized inundation causes loss through evaporation and it leaches out the nutrients from the plant. While through drip & sprinkler irrigation wastages of irrigational water could be minimized. The studies on different crops, has revealed that irrigation water is saved drastically. The conveyance losses (mainly seepage & evaporation) can be saved up to 25 to 40% through utilization of HDPE pipes. Initially the scheme is proposed to be implemented in worst affected areas showing deepest water levels and significant declining trends. It is proposed to take up micro irrigation system in 2000 ha @ 100 ha per village.

13.

TENTATIVE COST ESTIMATES (KALYANDURG MANDAL)

S.No.	Feasible Artificial Recharge & Water Conservation structures/	No. of Structures/ Quantity	Total Volume (MCM)	Tentative unit cost (in Rs lakh)	Total tentative cost (in Rs Lakh)	Expected Annual GW Recharge/Savings (MCM)
1	Proposed Masonry Check dams Crest Length -10-15 m, Height-1-2 m) (0.007 MCM*4 fillings)	12	0.336	5	60	0.252
2	Recharge shaft in Check dam (50% of the existing Check dams)	161	1.771	0.5	80.5	1.771
3	Proposed Percolation Tanks (100*100*2.5)* 4 fillings)	5	0.5	15	75	0.375
4	Renovation Desilting, Repairs and installation of Recharge Shafts in existing PTS (50% of the existing PTS)	87	0.957	1	87	0.957
5	Proposed Farm Pond (6 filling) 5*5*1.5 dimension @ 20 farm ponds per each village	400	0.0576	0.25	100	0.05184
6	Proposed Sprinkler/drip/HDPE pipes for 100 ha in each village	2000	12	0.6	1200	6
7	Proposed Piezometers up to 50 mbgl @ one PZ per Village	20	0	0.6	12	0
8 (i)	Total (No. of AR Structures)	685	3.62		414.5	3.407
8 (ii)	Total (ha)	2000			1200	6
	Total (8(i) + 8 (ii))				1614.5	9.407
9	Impact Assessment & O & M -5 % of Total cost of the Scheme				80.725	
	Grand Total				1695.225	

*(Expected annual GW Recharge/Savings MCM - CDS& PTS: 75%, Farm ponds - 90%, Sprinklers-50%, Recharge shafts in existing CDS and PTS-100%)

Note: The type, number and cost of structure may vary according to site, after the ground truth verification.

14. TIME SCHEDULE

Steps	Quarters							
	1st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th
Identification of line department/implementing agency and preparation of DPR								
Approval of Scheme and releases of sanction of funds								
Implementation of ARS								

Phase = one quarter or 3 months or equivalent to financial quarter

A). Operation and Maintenance

In all projects impact assessment has to be carried out to ensure that project is economically viable, socially equitable and environmentally sustainable by inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. Accordingly it is proposed to have impact assessment as well as operation & Maintenance at the rate of 5% of the total cost of the project for 5 years from the completion of artificial recharge project.

B). Expected Benefits

The benefits of the project are:

1. The implementation of the project would result in additional recharge/Ground water savings to the tune of 9.407 MCM.
2. Ground water recharge will help in arresting the rapid decline in ground water resources and will also ensure improvement in quality of ground water by dilution.
3. Proposed structures and measures will also enhance the ground water potential and would ensure sustainability of ground water resources. It is estimated that the stage of ground water development may likely to be reduced from the present 120% to 85% (35%)
4. It will also help in controlling soil erosion.

Acknowledgements

The data received from the Director Ground Water Department Andhra Pradesh in respect of the basic inputs is duly acknowledged. The information on existing Artificial Recharge Structures have been taken from the EMUSTER, Department of Rural Development, Government of AP.

EXISTING ARTIFICIAL RECHARGE STRUCTURES
KALYANDURG MANDAL, ANANTAPUR DISTRICT, AP.

S.no	Gram Panchayat	Habitation	Structure Type	Longitude	Latitude	Scheme
1	Borampalli	Borampalli	Check Dam	77.1779	14.5873	NREGS
2	Borampalli	Borampalli	Check Dam	77.1718	14.5805	NREGS
3	Borampalli	Borampalli	Check Dam	77.1694	14.5909	NREGS
4	Borampalli	Borampalli	Check Dam	77.1640	14.6077	NREGS
5	Borampalli	Borampalli	Check Dam	77.1828	14.5795	NREGS
6	Borampalli	Borampalli	Check Dam	77.1824	14.5853	NREGS
7	Borampalli	Borampalli	Check Dam	77.1696	14.6113	NREGS
8	Borampalli	Borampalli	Check Dam	77.1569	14.6031	NREGS
9	Borampalli	Borampalli	Check Dam	77.1769	14.5949	NREGS
10	Borampalli	Borampalli	Check Dam	77.1572	14.5886	NREGS
11	Borampalli	Borampalli	Check Dam	77.1774	14.5953	NREGS
12	Dodagatta	Dodagatta	Check Dam	77.1255	14.5733	NREGS
13	Dodagatta	Dodagatta	Check Dam	77.1203	14.5802	NREGS
14	Dodagatta	Dodagatta	Check Dam	77.1277	14.5856	NREGS
15	Dodagatta	Dodagatta	Check Dam	77.1236	14.5896	NREGS
16	Dodagatta	Dodagatta	Check Dam	77.1206	14.5883	NREGS
17	Dodagatta	Dodagatta	Check Dam	77.1233	14.5714	NREGS
18	Dodagatta	Dodagatta	Check Dam	77.0904	14.5767	NREGS
19	Dodagatta	Dodagatta	Check Dam	77.0905	14.5780	NREGS
20	Duradakunta	Duradakunta	Check Dam	77.2213	14.4949	NREGS
21	Duradakunta	Duradakunta	Check Dam	77.6192	14.6296	NREGS
22	Duradakunta	Duradakunta	Check Dam	77.1724	14.4719	NREGS
23	Duradakunta	Duradakunta	Check Dam	77.1978	14.4729	NREGS
24	Duradakunta	Duradakunta	Check Dam	77.2002	14.4742	NREGS
25	Duradakunta	Duradakunta	Check Dam	77.1820	14.4748	NREGS
26	Duradakunta	Duradakunta	Check Dam	77.1831	14.4770	NREGS
27	Duradakunta	Duradakunta	Check Dam	77.1861	14.4712	NREGS
28	Duradakunta	Duradakunta	Check Dam	77.1884	14.4663	NREGS
29	Duradakunta	Duradakunta	Check Dam	77.1908	14.4681	NREGS
30	Mudigal	Mudigal	Check Dam	77.1588	14.5626	NREGS
31	Mudigal	Mudigal	Check Dam	77.1605	14.5630	NREGS
32	Mudigal	Mudigal	Check Dam	77.1614	14.5633	NREGS
33	Mudigal	Mudigal	Check Dam	77.1516	14.5417	NREGS
34	Narayanapuram	Gajulapalli	Check Dam	77.1639	14.4827	NREGS
35	Narayanapuram	Narayanapuram	Check Dam	77.1358	14.5123	NREGS
36	Narayanapuram	Narayanapuram	Check Dam	77.1358	14.5122	NREGS
37	Narayanapuram	Narayanapuram	Check Dam	77.1318	14.5087	NREGS
38	Narayanapuram	Narayanapuram	Check Dam	77.1325	14.4931	NREGS

39	Narayanapuram	Narayanapuram	Check Dam	77.1406	14.4870	NREGS
40	Narayanapuram	Narayanapuram	Check Dam	77.1572	14.5014	NREGS
41	Narayanapuram	Narayanapuram	Check Dam	77.1555	14.4805	NREGS
42	Kondapuram	Kondapuram	Check Dam	77.3055	14.5783	NREGS
43	Kondapuram	Kondapuram	Check Dam	77.3080	14.5740	NREGS
44	Kondapuram	Kondapuram	Check Dam	77.2835	14.5663	NREGS
45	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.1980	14.5019	NREGS
46	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.1982	14.5035	NREGS
47	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.1983	14.5023	NREGS
48	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.2231	14.5102	NREGS
49	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.2331	14.4992	NREGS
50	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.1976	14.5120	NREGS
51	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.1962	14.5147	NREGS
52	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.2195	14.5041	NREGS
53	Bhattuvanipalli	Bhattuvanipalli	Check Dam	77.2235	14.5014	NREGS
54	Bhattuvanipalli	Varli	Check Dam	77.2211	14.4946	NREGS
55	Bhattuvanipalli	Varli	Check Dam	77.2203	14.4989	NREGS
56	Bhattuvanipalli	Varli	Check Dam	77.2213	14.5060	NREGS
57	Bhattuvanipalli	Varli	Check Dam	77.2237	14.5195	NREGS
58	Bhattuvanipalli	Varli	Check Dam	77.2215	14.5403	NREGS
59	Bhattuvanipalli	Varli	Check Dam	77.2170	14.5396	NREGS
60	Bhattuvanipalli	Varli	Check Dam	77.2347	14.5140	NREGS
61	Palavoy	Mallapuram	Check Dam	77.1381	14.5227	NREGS
62	Palavoy	Mallapuram	Check Dam	77.1422	14.5301	NREGS
63	Palavoy	Mallapuram	Check Dam	77.1420	14.5372	NREGS
64	Palavoy	Palavoy	Check Dam	77.1681	14.5209	NREGS
65	Palavoy	Palavoy	Check Dam	77.1680	14.5209	NREGS
66	Palavoy	Palavoy	Check Dam	77.1729	14.5196	NREGS
67	Palavoy	Palavoy	Check Dam	77.1728	14.5194	NREGS
68	Palavoy	Palavoy	Check Dam	77.1712	14.5084	NREGS
69	Palavoy	Palavoy	Check Dam	77.1850	14.5148	NREGS
70	Palavoy	Palavoy	Check Dam	77.1745	14.5159	NREGS
71	Manirevu	Nusikattala	Check Dam	77.3271	14.5942	NREGS
72	Manirevu	Obulapuram	Check Dam	77.2954	14.6301	NREGS
73	Manirevu	Obulapuram	Check Dam	77.2909	14.6259	NREGS
74	Manirevu	Obulapuram	Check Dam	77.3171	14.6162	NREGS
75	Manirevu	Obulapuram	Check Dam	77.3013	14.6253	NREGS
76	Manirevu	Obulapuram	Check Dam	77.2960	14.6182	NREGS
77	Manirevu	Obulapuram	Check Dam	77.3077	14.6148	NREGS
78	Manirevu	Obulapuram	Check Dam	77.3146	14.6149	NREGS
79	Bedrahalli	Bedrahalli	Check Dam	77.1544	14.4549	NREGS

80	Bedrahalli	Bedrahalli	Check Dam	77.1713	14.4642	NREGS
81	Bedrahalli	Bedrahalli	Check Dam	77.1725	14.4719	NREGS
82	Bedrahalli	Dasampalli	Check Dam	77.1662	14.4493	NREGS
83	Bedrahalli	Dasampalli	Check Dam	77.1680	14.4520	NREGS
84	Bedrahalli	Dasampalli	Check Dam	77.1649	14.4393	NREGS
85	Bedrahalli	Dasampalli	Check Dam	77.2772	14.3870	NREGS
86	Bedrahalli	Kamakkapalli	Check Dam	77.1395	14.4843	NREGS
87	Bedrahalli	Kamakkapalli	Check Dam	77.1290	14.4659	NREGS
88	Chapiri	Chapiri	Check Dam	77.1226	14.6068	NREGS
89	Chapiri	Chapiri	Check Dam	77.1044	14.6223	NREGS
90	Chapiri	Chapiri	Check Dam	77.1348	14.5940	NREGS
91	Chapiri	Chapiri	Check Dam	77.1321	14.5936	NREGS
92	Chapiri	Chapiri	Check Dam	77.1207	14.5883	NREGS
93	Chapiri	Chapiri	Check Dam	77.1045	14.6167	NREGS
94	Chapiri	Chapiri	Check Dam	77.1159	14.6112	NREGS
95	Chapiri	Chapiri	Check Dam	77.1214	14.6110	NREGS
96	Chapiri	Chapiri	Check Dam	77.1398	14.6000	NREGS
97	Chapiri	Madhireddipalli	Check Dam	77.1118	14.6337	NREGS
98	E.kodipalle	East Kodipalle	Check Dam	77.2110	14.5391	NREGS
99	E.kodipalle	East Kodipalle	Check Dam	77.2070	14.5376	NREGS
100	E.kodipalle	East Kodipalle	Check Dam	77.2011	14.5406	NREGS
101	E.kodipalle	East Kodipalle	Check Dam	77.2032	14.5348	NREGS
102	E.kodipalle	Mallipalli	Check Dam	77.1789	14.5273	NREGS
103	E.kodipalle	Mallipalli	Check Dam	77.1880	14.5287	NREGS
104	E.kodipalle	Mallipalli	Check Dam	77.1862	14.5243	NREGS
105	E.kodipalle	Thimmaganipalli	Check Dam	77.1679	14.5210	NREGS
106	E.kodipalle	Thimmaganipalli	Check Dam	77.1679	14.5210	NREGS
107	E.kodipalle	Thimmaganipalli	Check Dam	77.1738	14.5247	NREGS
108	Kotturu	Kotturu	Check Dam	77.0962	14.4596	NREGS
109	Kotturu	Kotturu	Check Dam	77.1037	14.4561	NREGS
110	Kotturu	Kotturu	Check Dam	77.1056	14.4602	NREGS
111	Kotturu	Kotturu	Check Dam	77.0915	14.4539	NREGS
112	Kotturu	Kotturu	Check Dam	77.1027	14.4647	NREGS
113	Kotturu	Kotturu	Check Dam	77.0771	14.4550	NREGS
114	Kotturu	Kotturu	Check Dam	77.0756	14.4551	NREGS
115	Kotturu	Kotturu	Check Dam	77.1251	14.4444	NREGS
116	Kotturu	Kotturu	Check Dam	77.1017	14.4711	NREGS
117	Kotturu	Kotturu	Check Dam	77.0961	14.4679	NREGS
118	Kotturu	Kotturu	Check Dam	77.0980	14.4645	NREGS
119	Kotturu	Morepalli	Check Dam	77.0983	14.4792	NREGS
120	Kotturu	Morepalli	Check Dam	77.0811	14.4664	NREGS

121	Kotturu	Morepalli	Check Dam	77.0784	14.4688	NREGS
122	Kotturu	Morepalli	Check Dam	77.0774	14.4682	NREGS
123	Kotturu	Papampalli	Check Dam	77.0961	14.4907	NREGS
124	Kotturu	Papampalli	Check Dam	77.1018	14.4928	NREGS
125	Kotturu	Papampalli	Check Dam	77.1008	14.4911	NREGS
126	Ontimiddi	Devadulakonda	Check Dam	77.1480	14.5591	NREGS
127	Ontimiddi	Devadulakonda	Check Dam	77.1437	14.5578	NREGS
128	Ontimiddi	Kurakulathata	Check Dam	77.1439	14.5782	NREGS
129	Ontimiddi	Kurakulathata	Check Dam	77.1447	14.5844	NREGS
130	Ontimiddi	Kurakulathata	Check Dam	77.1422	14.5797	NREGS
131	Ontimiddi	Ontmiddi	Check Dam	77.1394	14.5523	NREGS
132	Ontimiddi	Ontmiddi	Check Dam	77.1436	14.5832	NREGS
133	Golla	Golla	Check Dam	77.2147	14.5860	NREGS
134	Golla	Golla	Check Dam	77.2127	14.5897	NREGS
135	Golla	Golla	Check Dam	77.2114	14.5792	NREGS
136	Golla	Seebai	Check Dam	77.2423	14.6043	NREGS
137	Golla	Seebai	Check Dam	77.2420	14.6095	NREGS
138	Golla	Seebai	Check Dam	77.2444	14.6134	NREGS
139	Golla	Seebai	Check Dam	77.2395	14.6123	NREGS
140	Golla	Seebai	Check Dam	77.2366	14.5981	NREGS
141	Golla	Seebai	Check Dam	77.2194	14.6132	NREGS
142	Golla	Seebai	Check Dam	77.2404	14.6035	NREGS
143	Golla	Seebai	Check Dam	77.2396	14.6023	NREGS
144	Golla	Seebai	Check Dam	77.2366	14.6031	NREGS
145	Golla	Seebai	Check Dam	77.2327	14.5999	NREGS
146	Hulikal	Hulikal	Check Dam	77.0722	14.6135	NREGS
147	Hulikal	Hulikal	Check Dam	77.0660	14.6264	NREGS
148	Hulikal	Hulikal	Check Dam	77.0700	14.6224	NREGS
149	Hulikal	Hulikal	Check Dam	77.0734	14.6151	NREGS
150	Hulikal	Mallikarjunapalli	Check Dam	77.0909	14.5955	NREGS
151	Hulikal	Mallikarjunapalli	Check Dam	77.0892	14.5982	NREGS
152	Hulikal	Mallikarjunapalli	Check Dam	77.0816	14.5980	NREGS
153	Hulikal	Mallikarjunapalli	Check Dam	77.0809	14.5963	NREGS
154	Hulikal	Mallikarjunapalli	Check Dam	77.0801	14.5944	NREGS
155	Hulikal	Vitlampalli	Check Dam	77.0739	14.6057	NREGS
156	Hulikal	Vitlampalli	Check Dam	77.0716	14.5961	NREGS
157	Hulikal	Vitlampalli	Check Dam	77.0650	14.5928	NREGS
158	Hulikal	Vitlampalli	Check Dam	77.0622	14.6034	NREGS
159	Garudapuram	Garudapuram	Check Dam	77.1017	14.4926	NREGS
160	Garudapuram	Garudapuram	Check Dam	77.1068	14.4978	NREGS
161	Garudapuram	Garudapuram	Check Dam	77.1150	14.5133	NREGS

162	Garudapuram	Garudapuram	Check Dam	77.1183	14.5118	NREGS
163	Garudapuram	Garudapuram	Check Dam	77.1090	14.4988	NREGS
164	Garudapuram	Garudapuram	Check Dam	77.1104	14.5002	NREGS
165	Garudapuram	Garudapuram	Check Dam	77.1136	14.5007	NREGS
166	Garudapuram	Kurubarahalli	Check Dam	77.1194	14.4692	NREGS
167	Garudapuram	Kurubarahalli	Check Dam	77.1215	14.4712	NREGS
168	Garudapuram	Kurubarahalli	Check Dam	77.1286	14.4768	NREGS
169	Garudapuram	Kurubarahalli	Check Dam	77.1309	14.4793	NREGS
170	Garudapuram	Uppuvanka	Check Dam	77.0749	14.5167	NREGS
171	Garudapuram	Uppuvanka	Check Dam	77.0931	14.5173	NREGS
172	Garudapuram	Uppuvanka	Check Dam	77.0984	14.5169	NREGS
173	Garudapuram	Yarrampalli	Check Dam	77.1188	14.5040	NREGS
174	Garudapuram	Yarrampalli	Check Dam	77.1223	14.5058	NREGS
175	M.n.palli	Kaparalapalli	Check Dam	77.2519	14.5257	NREGS
176	M.n.palli	Kaparalapalli	Check Dam	77.2442	14.5357	NREGS
177	M.n.palli	Kaparalapalli	Check Dam	77.2422	14.5349	NREGS
178	M.n.palli	Kaparalapalli	Check Dam	77.2407	14.5560	NREGS
179	M.n.palli	Kaparalapalli	Check Dam	77.2397	14.5465	NREGS
180	M.n.palli	Kaparalapalli	Check Dam	77.2465	14.5475	NREGS
181	M.n.palli	M.N.Palli	Check Dam	77.2486	14.5592	NREGS
182	M.n.palli	M.N.Palli	Check Dam	77.2695	14.5602	NREGS
183	M.n.palli	M.N.Palli	Check Dam	77.2690	14.5565	NREGS
184	M.n.palli	Monkhikapuram	Check Dam	77.2594	14.5366	NREGS
185	M.n.palli	Monkhikapuram	Check Dam	77.2591	14.5267	NREGS
186	M.n.palli	Monkhikapuram	Check Dam	77.2687	14.5192	NREGS
187	M.n.palli	Monkhikapuram	Check Dam	77.2695	14.5207	NREGS
188	M.n.palli	Monkhikapuram	Check Dam	77.2515	14.5260	NREGS
189	M.n.palli	P.T.R.Palli	Check Dam	77.2236	14.5463	NREGS
190	M.n.palli	P.T.R.Palli	Check Dam	77.2271	14.5459	NREGS
191	M.n.palli	P.T.R.Palli	Check Dam	77.2290	14.5465	NREGS
192	M.n.palli	Venkatampalli	Check Dam	77.2871	14.5734	NREGS
193	M.n.palli	Venkatampalli	Check Dam	77.2869	14.5787	NREGS
194	M.n.palli	Venkatampalli	Check Dam	77.2900	14.5785	NREGS
195	M.n.palli	Venkatampalli	Check Dam	77.2850	14.5760	NREGS
196	M.n.palli	Venkatampalli	Check Dam	77.2849	14.5730	NREGS
197	M.n.palli	Venkatampalli	Check Dam	77.2788	14.5733	NREGS
198	M.n.palli	Venkatampalli	Check Dam	77.2695	14.5840	NREGS
199	M.n.palli	Venkatampalli	Check Dam	77.2759	14.5713	NREGS
200	M.n.palli	Venkatampalli	Check Dam	77.2714	14.5770	NREGS
201	M.n.palli	Venkatampalli	Check Dam	77.2676	14.5756	NREGS
202	M.n.palli	Venkatampalli	Check Dam	77.2643	14.5805	NREGS

203	M.n.palli	Venkatampalli	Check Dam	77.2722	14.5799	NREGS
204	T.samudram	Balavenkatapuram	Check Dam	77.3327	14.5411	NREGS
205	T.samudram	Balavenkatapuram	Check Dam	77.3285	14.5496	NREGS
206	T.samudram	Balavenkatapuram	Check Dam	77.3215	14.5488	NREGS
207	T.samudram	Balavenkatapuram	Check Dam	77.3342	14.5577	NREGS
208	T.samudram	Balavenkatapuram	Check Dam	77.3217	14.5551	NREGS
209	T.samudram	T.Samudram	Check Dam	77.2951	14.5450	NREGS
210	T.samudram	T.Samudram	Check Dam	77.2872	14.5276	NREGS
211	T.samudram	T.Samudram	Check Dam	77.2862	14.5144	NREGS
212	T.samudram	T.Samudram	Check Dam	77.2916	14.5314	NREGS
213	Kondapuram	Kondapuram	Check Dam	77.3055	14.5783	IWMP
214	Kondapuram	Kondapuram	Check Dam	77.3080	14.5740	IWMP
215	Kondapuram	Kondapuram	Check Dam	77.2835	14.5663	IWMP
216	Bhattuvanipalli	Varli	Check Dam	77.2211	14.4946	IWMP
217	Bhattuvanipalli	Varli	Check Dam	77.2203	14.4989	IWMP
218	Bhattuvanipalli	Varli	Check Dam	77.2213	14.5060	IWMP
219	Bhattuvanipalli	Varli	Check Dam	77.2237	14.5195	IWMP
220	Bhattuvanipalli	Varli	Check Dam	77.2215	14.5403	IWMP
221	Bhattuvanipalli	Varli	Check Dam	77.2170	14.5396	IWMP
222	Bhattuvanipalli	Varli	Check Dam	77.2347	14.5140	IWMP
223	Palavoy	Mallapuram	Check Dam	77.1381	14.5227	IWMP
224	Palavoy	Mallapuram	Check Dam	77.1422	14.5301	IWMP
225	Palavoy	Mallapuram	Check Dam	77.1420	14.5372	IWMP
226	Palavoy	Palavoy	Check Dam	77.1681	14.5209	IWMP
227	Palavoy	Palavoy	Check Dam	77.1680	14.5209	IWMP
228	Palavoy	Palavoy	Check Dam	77.1729	14.5196	IWMP
229	Palavoy	Palavoy	Check Dam	77.1728	14.5194	IWMP
230	Palavoy	Palavoy	Check Dam	77.1712	14.5084	IWMP
231	Palavoy	Palavoy	Check Dam	77.1850	14.5148	IWMP
232	Palavoy	Palavoy	Check Dam	77.1745	14.5159	IWMP
233	Manirevu	Nusikattala	Check Dam	77.3271	14.5942	IWMP
234	Bedrahalli	Bedrahalli	Check Dam	77.1544	14.4549	IWMP
235	Bedrahalli	Bedrahalli	Check Dam	77.1713	14.4642	IWMP
236	Bedrahalli	Bedrahalli	Check Dam	77.1725	14.4719	IWMP
237	E.kodipalle	East Kodipalle	Check Dam	77.2110	14.5391	IWMP
238	E.kodipalle	East Kodipalle	Check Dam	77.2070	14.5376	IWMP
239	E.kodipalle	East Kodipalle	Check Dam	77.2011	14.5406	IWMP
240	E.kodipalle	East Kodipalle	Check Dam	77.2032	14.5348	IWMP
241	Garudapuram	Garudapuram	Check Dam	77.1017	14.4926	IWMP
242	Garudapuram	Garudapuram	Check Dam	77.1068	14.4978	IWMP
243	Garudapuram	Garudapuram	Check Dam	77.1150	14.5133	IWMP

244	Garudapuram	Garudapuram	Check Dam	77.1183	14.5118	IWMP
245	Garudapuram	Garudapuram	Check Dam	77.1090	14.4988	IWMP
246	Garudapuram	Garudapuram	Check Dam	77.1104	14.5002	IWMP
247	Garudapuram	Garudapuram	Check Dam	77.1136	14.5007	IWMP
248	M.n.palli	Kapalarapalli	Check Dam	77.2519	14.5257	IWMP
249	M.n.palli	Kapalarapalli	Check Dam	77.2442	14.5357	IWMP
250	M.n.palli	Kapalarapalli	Check Dam	77.2422	14.5349	IWMP
251	M.n.palli	Kapalarapalli	Check Dam	77.2407	14.5560	IWMP
252	M.n.palli	Kapalarapalli	Check Dam	77.2397	14.5465	IWMP
253	M.n.palli	Kapalarapalli	Check Dam	77.2465	14.5475	IWMP
254	M.n.palli	M.N.Palli	Check Dam	77.2486	14.5592	IWMP
255	M.n.palli	M.N.Palli	Check Dam	77.2695	14.5602	IWMP
256	M.n.palli	M.N.Palli	Check Dam	77.2690	14.5565	IWMP
257	M.n.palli	Monkhikapuram	Check Dam	77.2594	14.5366	IWMP
258	M.n.palli	Monkhikapuram	Check Dam	77.2591	14.5267	IWMP
259	M.n.palli	Monkhikapuram	Check Dam	77.2687	14.5192	IWMP
260	M.n.palli	Monkhikapuram	Check Dam	77.2695	14.5207	IWMP
261	M.n.palli	Monkhikapuram	Check Dam	77.2515	14.5260	IWMP
262	M.n.palli	P.T.R.Palli	Check Dam	77.2236	14.5463	IWMP
263	M.n.palli	P.T.R.Palli	Check Dam	77.2271	14.5459	IWMP
264	M.n.palli	P.T.R.Palli	Check Dam	77.2290	14.5465	IWMP
265	M.n.palli	Venkatampalli	Check Dam	77.2871	14.5734	IWMP
266	M.n.palli	Venkatampalli	Check Dam	77.2869	14.5787	IWMP
267	M.n.palli	Venkatampalli	Check Dam	77.2900	14.5785	IWMP
268	M.n.palli	Venkatampalli	Check Dam	77.2850	14.5760	IWMP
269	M.n.palli	Venkatampalli	Check Dam	77.2849	14.5730	IWMP
270	M.n.palli	Venkatampalli	Check Dam	77.2788	14.5733	IWMP
271	M.n.palli	Venkatampalli	Check Dam	77.2695	14.5840	IWMP
272	M.n.palli	Venkatampalli	Check Dam	77.2759	14.5713	IWMP
273	M.n.palli	Venkatampalli	Check Dam	77.2714	14.5770	IWMP
274	M.n.palli	Venkatampalli	Check Dam	77.2676	14.5756	IWMP
275	M.n.palli	Venkatampalli	Check Dam	77.2643	14.5805	IWMP
276	M.n.palli	Venkatampalli	Check Dam	77.2722	14.5799	IWMP
277	T.samudram	Balavenkatapuram	Check Dam	77.3327	14.5411	IWMP
278	T.samudram	Balavenkatapuram	Check Dam	77.3285	14.5496	IWMP
279	T.samudram	Balavenkatapuram	Check Dam	77.3215	14.5488	IWMP
280	T.samudram	Balavenkatapuram	Check Dam	77.3342	14.5577	IWMP
281	T.samudram	Balavenkatapuram	Check Dam	77.3217	14.5551	IWMP
282	T.samudram	T.Samudram	Check Dam	77.2916	14.5314	IWMP
283	T.samudram	T.Samudram	Check Dam	77.2951	14.5450	IWMP
284	T.samudram	T.Samudram	Check Dam	77.2872	14.5276	IWMP

285	T.samudram	T.Samudram	Check Dam	77.2862	14.5144	IWMP
286	Kondapuram	Kandarampalli	Check Wall	77.2825	14.5616	NREGS
287	Kondapuram	Kondapuram	Check Wall	77.3065	14.5735	NREGS
288	Bhattuvanipalli	Bhattuvanipalli	Check Wall	77.2234	14.5050	NREGS
289	Bhattuvanipalli	Bhattuvanipalli	Check Wall	77.2278	14.4936	NREGS
290	Bhattuvanipalli	Bhattuvanipalli	Check Wall	77.2319	14.4975	NREGS
291	Bhattuvanipalli	Bhattuvanipalli	Check Wall	77.2353	14.5026	NREGS
292	Bhattuvanipalli	Varli	Check Wall	77.2292	14.5031	NREGS
293	Bhattuvanipalli	Varli	Check Wall	77.2190	14.5463	NREGS
294	Bhattuvanipalli	Varli	Check Wall	77.2180	14.5457	NREGS
295	Bhattuvanipalli	Varli	Check Wall	77.2323	14.5152	NREGS
296	Bhattuvanipalli	Varli	Check Wall	77.2165	14.5311	NREGS
297	Manirevu	Obulapuram	Check Wall	77.2998	14.6165	NREGS
298	Bedrahalli	Bedrahalli	Check Wall	77.1701	14.4639	NREGS
299	Bedrahalli	Bedrahalli	Check Wall	77.1525	14.4658	NREGS
300	Bedrahalli	Dasampalli	Check Wall	77.1557	14.4526	NREGS
301	Bedrahalli	Kamakkapalli	Check Wall	77.1323	14.4690	NREGS
302	E.kodipalle	Mallipalli	Check Wall	77.1898	14.5299	NREGS
303	Kotturu	Kotturu	Check Wall	77.1074	14.4567	NREGS
304	Hulikal	Hulikal	Check Wall	77.0641	14.6223	NREGS
305	Hulikal	Vitlampalli	Check Wall	77.0490	14.5993	NREGS
306	M.n.palli	Kapalarapalli	Check Wall	77.2434	14.5280	NREGS
307	M.n.palli	M.N.Palli	Check Wall	77.2728	14.5353	NREGS
308	M.n.palli	M.N.Palli	Check Wall	77.2761	14.5384	NREGS
309	M.n.palli	P.T.R.Palli	Check Wall	77.2360	14.5432	NREGS
310	Kondapuram	Kandarampalli	Check Wall	77.2825	14.5616	IWMP
311	Kondapuram	Kondapuram	Check Wall	77.3065	14.5735	IWMP
312	Bhattuvanipalli	Varli	Check Wall	77.2292	14.5031	IWMP
313	Bhattuvanipalli	Varli	Check Wall	77.2190	14.5463	IWMP
314	Bhattuvanipalli	Varli	Check Wall	77.2180	14.5457	IWMP
315	Bhattuvanipalli	Varli	Check Wall	77.2323	14.5152	IWMP
316	Bhattuvanipalli	Varli	Check Wall	77.2165	14.5311	IWMP
317	Bedrahalli	Bedrahalli	Check Wall	77.1701	14.4639	IWMP
318	Bedrahalli	Bedrahalli	Check Wall	77.1525	14.4658	IWMP
319	M.n.palli	Kapalarapalli	Check Wall	77.2434	14.5280	IWMP
320	M.n.palli	M.N.Palli	Check Wall	77.2728	14.5353	IWMP
321	M.n.palli	M.N.Palli	Check Wall	77.2761	14.5384	IWMP
322	M.n.palli	P.T.R.Palli	Check Wall	77.2360	14.5432	IWMP
323	Duradakunta	Duradakunta	MPT	77.2136	14.4934	NREGS
324	Duradakunta	Duradakunta	MPT	77.1853	14.4874	NREGS
325	Mudigal	Mudigal	MPT	77.1701	14.5634	NREGS

326	Narayanapuram	Gajulapalli	MPT	77.1543	14.4963	NREGS
327	Kondapuram	Kondapuram	MPT	77.3107	14.5741	NREGS
328	Kondapuram	Kondapuram	MPT	77.2831	14.5625	NREGS
329	Kondapuram	Kondapuram	MPT	77.2835	14.5634	NREGS
330	Bhattuvanipalli	Bhattuvanipalli	MPT	77.1936	14.5020	NREGS
331	Bhattuvanipalli	Bhattuvanipalli	MPT	77.2058	14.5066	NREGS
332	Bhattuvanipalli	Bhattuvanipalli	MPT	77.1888	14.5040	NREGS
333	Bhattuvanipalli	Bhattuvanipalli	MPT	77.1940	14.5126	NREGS
334	Golla	Golla	MPT	77.2169	14.5836	NREGS
335	Golla	Golla	MPT	77.2168	14.5825	NREGS
336	Golla	Seebai	MPT	77.2302	14.5988	NREGS
337	Golla	Seebai	MPT	77.2399	14.6002	NREGS
338	Golla	Seebai	MPT	77.2341	14.6013	NREGS
339	M.n.palli	Kaparalapalli	MPT	77.2481	14.5128	NREGS
340	M.n.palli	Venkatampalli	MPT	77.2695	14.5745	NREGS
341	Kondapuram	Kondapuram	MPT	77.3107	14.5741	IWMP
342	Kondapuram	Kondapuram	MPT	77.2831	14.5625	IWMP
343	Kondapuram	Kondapuram	MPT	77.2835	14.5634	IWMP
344	M.n.palli	Kaparalapalli	MPT	77.2481	14.5128	IWMP
345	M.n.palli	Venkatampalli	MPT	77.2695	14.5745	IWMP
346	Borampalli	Borampalli	PT	77.1699	14.5840	NREGS
347	Borampalli	Borampalli	PT	77.1450	14.5852	NREGS
348	Borampalli	Borampalli	PT	77.1624	14.6063	NREGS
349	Borampalli	Borampalli	PT	77.1744	14.5898	NREGS
350	Duradakunta	Duradakunta	PT	77.2115	14.4964	NREGS
351	Duradakunta	Duradakunta	PT	77.1697	14.4786	NREGS
352	Duradakunta	Duradakunta	PT	77.1860	14.4641	NREGS
353	Kalyandurg	Kalyandurg (Pt)	PT	77.0834	14.5587	NREGS
354	Narayanapuram	Narayanapuram	PT	77.1539	14.4818	NREGS
355	Kondapuram	Kandarampalli	PT	77.2997	14.5627	NREGS
356	Kondapuram	Kondapuram	PT	77.3093	14.5741	NREGS
357	Kondapuram	Kondapuram	PT	77.3090	14.5760	NREGS
358	Kondapuram	Kondapuram	PT	77.2974	14.5627	NREGS
359	Kondapuram	Kondapuram	PT	77.2940	14.5693	NREGS
360	Kondapuram	Kondapuram	PT	77.2913	14.5729	NREGS
361	Bhattuvanipalli	Bhattuvanipalli	PT	77.1961	14.5012	NREGS
362	Bhattuvanipalli	Bhattuvanipalli	PT	77.2017	14.5022	NREGS
363	Bhattuvanipalli	Bhattuvanipalli	PT	77.1962	14.5116	NREGS
364	Bhattuvanipalli	Bhattuvanipalli	PT	77.1968	14.5085	NREGS
365	Bhattuvanipalli	Bhattuvanipalli	PT	77.1969	14.5075	NREGS
366	Bhattuvanipalli	Bhattuvanipalli	PT	77.1941	14.5082	NREGS

367	Bhattuvanipalli	Bhattuvanipalli	PT	77.1914	14.5072	NREGS
368	Bhattuvanipalli	Varli	PT	77.2240	14.5165	NREGS
369	Bhattuvanipalli	Varli	PT	77.2249	14.5114	NREGS
370	Palavoy	Mallapuram	PT	77.1301	14.5308	NREGS
371	Palavoy	Mallapuram	PT	77.1283	14.5313	NREGS
372	Palavoy	Mallapuram	PT	77.1331	14.5255	NREGS
373	Palavoy	Mallapuram	PT	77.1327	14.5359	NREGS
374	Palavoy	Mallapuram	PT	77.1412	14.5324	NREGS
375	Palavoy	Mallapuram	PT	77.1386	14.5401	NREGS
376	Palavoy	Palavoy	PT	77.1719	14.5180	NREGS
377	Palavoy	Palavoy	PT	77.1716	14.5178	NREGS
378	Palavoy	Palavoy	PT	77.1790	14.5002	NREGS
379	Manirevu	Manirevu	PT	77.3220	14.5961	NREGS
380	Manirevu	Manirevu	PT	77.3322	14.5839	NREGS
381	Manirevu	Manirevu	PT	77.3239	14.5875	NREGS
382	Manirevu	Manirevu	PT	77.3183	14.5841	NREGS
383	Bedrahalli	Bedrahalli	PT	77.1520	14.4656	NREGS
384	Chapiri	Chapiri	PT	77.1016	14.6274	NREGS
385	Chapiri	Chapiri	PT	77.1051	14.6298	NREGS
386	Chapiri	Chapiri	PT	77.1078	14.6284	NREGS
387	Chapiri	Chapiri	PT	77.1088	14.6242	NREGS
388	Chapiri	Chapiri	PT	77.1112	14.6153	NREGS
389	Chapiri	Chapiri	PT	77.1297	14.6095	NREGS
390	E.kodipalle	East Kodipalle	PT	77.2121	14.5392	NREGS
391	E.kodipalle	East Kodipalle	PT	77.1983	14.5402	NREGS
392	E.kodipalle	East Kodipalle	PT	77.2020	14.5351	NREGS
393	E.kodipalle	Mallipalli	PT	76.1692	14.3042	NREGS
394	E.kodipalle	Thimmaganipalli	PT	77.1696	14.5226	NREGS
395	E.kodipalle	Thimmaganipalli	PT	77.1696	14.5226	NREGS
396	E.kodipalle	Thimmaganipalli	PT	77.1637	14.5201	NREGS
397	E.kodipalle	Thimmaganipalli	PT	77.1637	14.5201	NREGS
398	E.kodipalle	Thimmaganipalli	PT	77.1708	14.5236	NREGS
399	E.kodipalle	Thimmaganipalli	PT	77.1708	14.5236	NREGS
400	Kotturu	Kotturu	PT	77.1195	14.4481	NREGS
401	Kotturu	Kotturu	PT	77.1044	14.4582	NREGS
402	Kotturu	Kotturu	PT	77.1059	14.4645	NREGS
403	Kotturu	Morepalli	PT	77.0869	14.4756	NREGS
404	Kotturu	Morepalli	PT	77.0967	14.4857	NREGS
405	Kotturu	Morepalli	PT	77.0876	14.4753	NREGS
406	Kotturu	Morepalli	PT	77.0986	14.4786	NREGS
407	Kotturu	Morepalli	PT	77.0828	14.4753	NREGS

408	Kotturu	Papampalli	PT	77.0860	14.4840	NREGS
409	Ontimiddi	Kurakulathata	PT	77.1440	14.5763	NREGS
410	Ontimiddi	Ontmiddi	PT	77.1398	14.5734	NREGS
411	Ontimiddi	Ontmiddi	PT	77.1261	14.5545	NREGS
412	Golla	Golla	PT	77.1995	14.5866	NREGS
413	Golla	Golla	PT	77.1968	14.5948	NREGS
414	Golla	Golla	PT	77.2168	14.5852	NREGS
415	Golla	Golla	PT	77.2114	14.5920	NREGS
416	Golla	Seebai	PT	77.2438	14.6108	NREGS
417	Golla	Seebai	PT	77.2415	14.6132	NREGS
418	Golla	Seebai	PT	77.2401	14.6147	NREGS
419	Golla	Seebai	PT	77.2376	14.6174	NREGS
420	Hulikal	Vitlampalli	PT	77.0675	14.5855	NREGS
421	Garudapuram	Garudapuram	PT	77.1000	14.5167	NREGS
422	Garudapuram	Kurubarahalli	PT	77.1230	14.4751	NREGS
423	Garudapuram	Yarrampalli	PT	77.1166	14.5036	NREGS
424	M.n.palli	Kaparalapalli	PT	77.2503	14.5188	NREGS
425	M.n.palli	M.N.Palli	PT	77.2754	14.5608	NREGS
426	M.n.palli	M.N.Palli	PT	77.2673	14.5615	NREGS
427	M.n.palli	M.N.Palli	PT	77.2737	14.5360	NREGS
428	M.n.palli	Monkhikapuram	PT	77.2683	14.5202	NREGS
429	M.n.palli	Monkhikapuram	PT	77.2635	14.5127	NREGS
430	M.n.palli	Monkhikapuram	PT	77.2619	14.5167	NREGS
431	M.n.palli	Monkhikapuram	PT	77.2600	14.5150	NREGS
432	M.n.palli	Monkhikapuram	PT	77.2560	14.5214	NREGS
433	M.n.palli	Monkhikapuram	PT	77.2510	14.5166	NREGS
434	M.n.palli	Monkhikapuram	PT	77.2573	14.5392	NREGS
435	M.n.palli	P.T.R.Palli	PT	77.2365	14.5165	NREGS
436	M.n.palli	P.T.R.Palli	PT	77.2230	14.5470	NREGS
437	T.samudram	Balavenkatapuram	PT	77.3134	14.5511	NREGS
438	T.samudram	Balavenkatapuram	PT	77.3352	14.5485	NREGS
439	T.samudram	Balavenkatapuram	PT	77.3297	14.5565	NREGS
440	T.samudram	Pinjirikottala	PT	77.3482	14.5272	NREGS
441	T.samudram	T.Samudram	PT	77.3004	14.5383	NREGS
442	T.samudram	T.Samudram	PT	77.3234	14.5308	NREGS
443	T.samudram	T.Samudram	PT	77.2834	14.5160	NREGS
444	T.samudram	T.Samudram	PT	77.2865	14.5111	NREGS
445	T.samudram	T.Samudram	PT	77.2942	14.5346	NREGS
446	T.samudram	T.Samudram	PT	77.2948	14.5437	NREGS
447	Kondapuram	Kandarampalli	PT	77.2997	14.5627	IWMP
448	Kondapuram	Kondapuram	PT	77.3093	14.5741	IWMP

449	Kondapuram	Kondapuram	PT	77.3090	14.5760	IWMP
450	Kondapuram	Kondapuram	PT	77.2974	14.5627	IWMP
451	Kondapuram	Kondapuram	PT	77.2940	14.5693	IWMP
452	Kondapuram	Kondapuram	PT	77.2913	14.5729	IWMP
453	Bhattuvanipalli	Varli	PT	77.2240	14.5165	IWMP
454	Bhattuvanipalli	Varli	PT	77.2249	14.5114	IWMP
455	Palavoy	Mallapuram	PT	77.1301	14.5308	IWMP
456	Palavoy	Mallapuram	PT	77.1283	14.5313	IWMP
457	Palavoy	Mallapuram	PT	77.1331	14.5255	IWMP
458	Palavoy	Mallapuram	PT	77.1327	14.5359	IWMP
459	Palavoy	Mallapuram	PT	77.1412	14.5324	IWMP
460	Palavoy	Mallapuram	PT	77.1386	14.5401	IWMP
461	Palavoy	Palavoy	PT	77.1719	14.5180	IWMP
462	Palavoy	Palavoy	PT	77.1716	14.5178	IWMP
463	Palavoy	Palavoy	PT	77.1790	14.5002	IWMP
464	Manirevu	Manirevu	PT	77.3220	14.5961	IWMP
465	Manirevu	Manirevu	PT	77.3322	14.5839	IWMP
466	Manirevu	Manirevu	PT	77.3239	14.5875	IWMP
467	Manirevu	Manirevu	PT	77.3183	14.5841	IWMP
468	Bedrahalli	Bedrahalli	PT	77.1520	14.4656	IWMP
469	E.kodipalle	East Kodipalle	PT	77.2121	14.5392	IWMP
470	E.kodipalle	East Kodipalle	PT	77.1983	14.5402	IWMP
471	E.kodipalle	East Kodipalle	PT	77.2020	14.5351	IWMP
472	Garudapuram	Garudapuram	PT	77.1000	14.5167	IWMP
473	M.n.palli	Kaparalapalli	PT	77.2503	14.5188	IWMP
474	M.n.palli	M.N.Palli	PT	77.2754	14.5608	IWMP
475	M.n.palli	M.N.Palli	PT	77.2673	14.5615	IWMP
476	M.n.palli	M.N.Palli	PT	77.2737	14.5360	IWMP
477	M.n.palli	Monkhikapuram	PT	77.2683	14.5202	IWMP
478	M.n.palli	Monkhikapuram	PT	77.2635	14.5127	IWMP
479	M.n.palli	Monkhikapuram	PT	77.2619	14.5167	IWMP
480	M.n.palli	Monkhikapuram	PT	77.2600	14.5150	IWMP
481	M.n.palli	Monkhikapuram	PT	77.2560	14.5214	IWMP
482	M.n.palli	Monkhikapuram	PT	77.2510	14.5166	IWMP
483	M.n.palli	Monkhikapuram	PT	77.2573	14.5392	IWMP
484	M.n.palli	P.T.R.Palli	PT	77.2365	14.5165	IWMP
485	M.n.palli	P.T.R.Palli	PT	77.2230	14.5470	IWMP
486	T.samudram	Balavenkatapuram	PT	77.3134	14.5511	IWMP
487	T.samudram	Balavenkatapuram	PT	77.3352	14.5485	IWMP
488	T.samudram	Balavenkatapuram	PT	77.3297	14.5565	IWMP
489	T.samudram	Pinjirikottala	PT	77.3482	14.5272	IWMP

490	T.samudram	T.Samudram	PT	77.3004	14.5383	IWMP
491	T.samudram	T.Samudram	PT	77.2942	14.5346	IWMP
492	T.samudram	T.Samudram	PT	77.2948	14.5437	IWMP
493	T.samudram	T.Samudram	PT	77.2834	14.5160	IWMP
494	T.samudram	T.Samudram	PT	77.2865	14.5111	IWMP
495	T.samudram	T.Samudram	PT	77.3234	14.5308	IWMP

PROPOSED ARTIFICIAL RECHARGE STRUCTURES
KALYANDURG MANDAL, ANANTAPUR DISTRICT, AP.

S.No.	Mandal	Lattitude	Longitude	Structure_Type
1	Kalyandurg	14.5456	77.1906	CheckDam
2	Kalyandurg	14.5196	77.1531	CheckDam
3	Kalyandurg	14.5232	77.1129	CheckDam
4	Kalyandurg	14.5235	77.1072	CheckDam
5	Kalyandurg	14.5067	77.1425	CheckDam
6	Kalyandurg	14.5548	77.2118	CheckDam
7	Kalyandurg	14.5813	77.2498	CheckDam
8	Kalyandurg	14.5495	77.2865	CheckDam
9	Kalyandurg	14.5837	77.3440	CheckDam
10	Kalyandurg	14.5272	77.3294	CheckDam
11	Kalyandurg	14.5627	77.3096	CheckDam
12	Kalyandurg	14.6058	77.3207	CheckDam
13	Kalyandurg	14.5947	77.1862	Percolation Tank
14	Kalyandurg	14.6036	77.3011	Percolation Tank
15	Kalyandurg	14.5667	77.3198	Percolation Tank
16	Kalyandurg	14.5494	77.2629	Percolation Tank
17	Kalyandurg	14.5768	77.2380	Percolation Tank

Fig.1

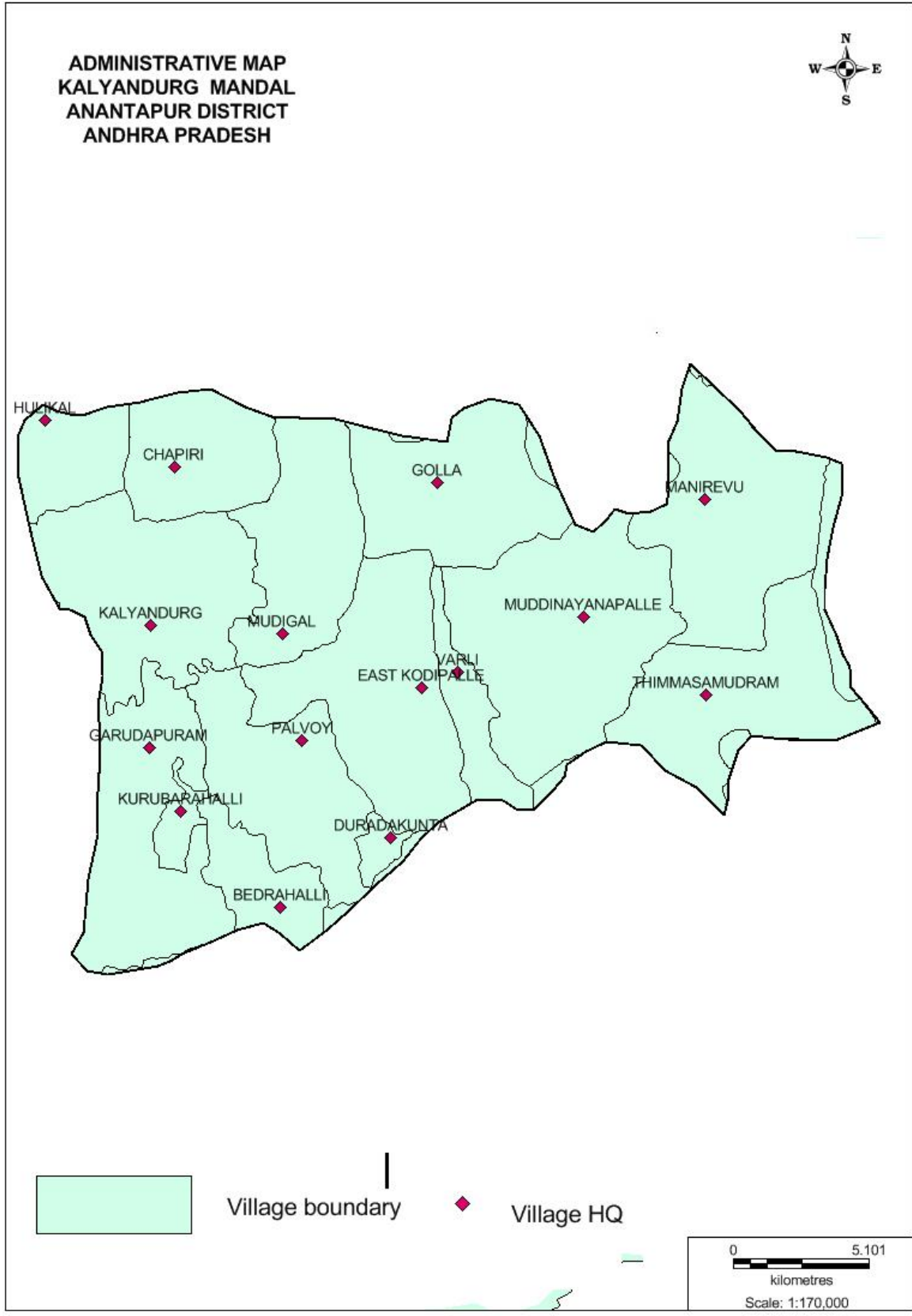


Fig.2

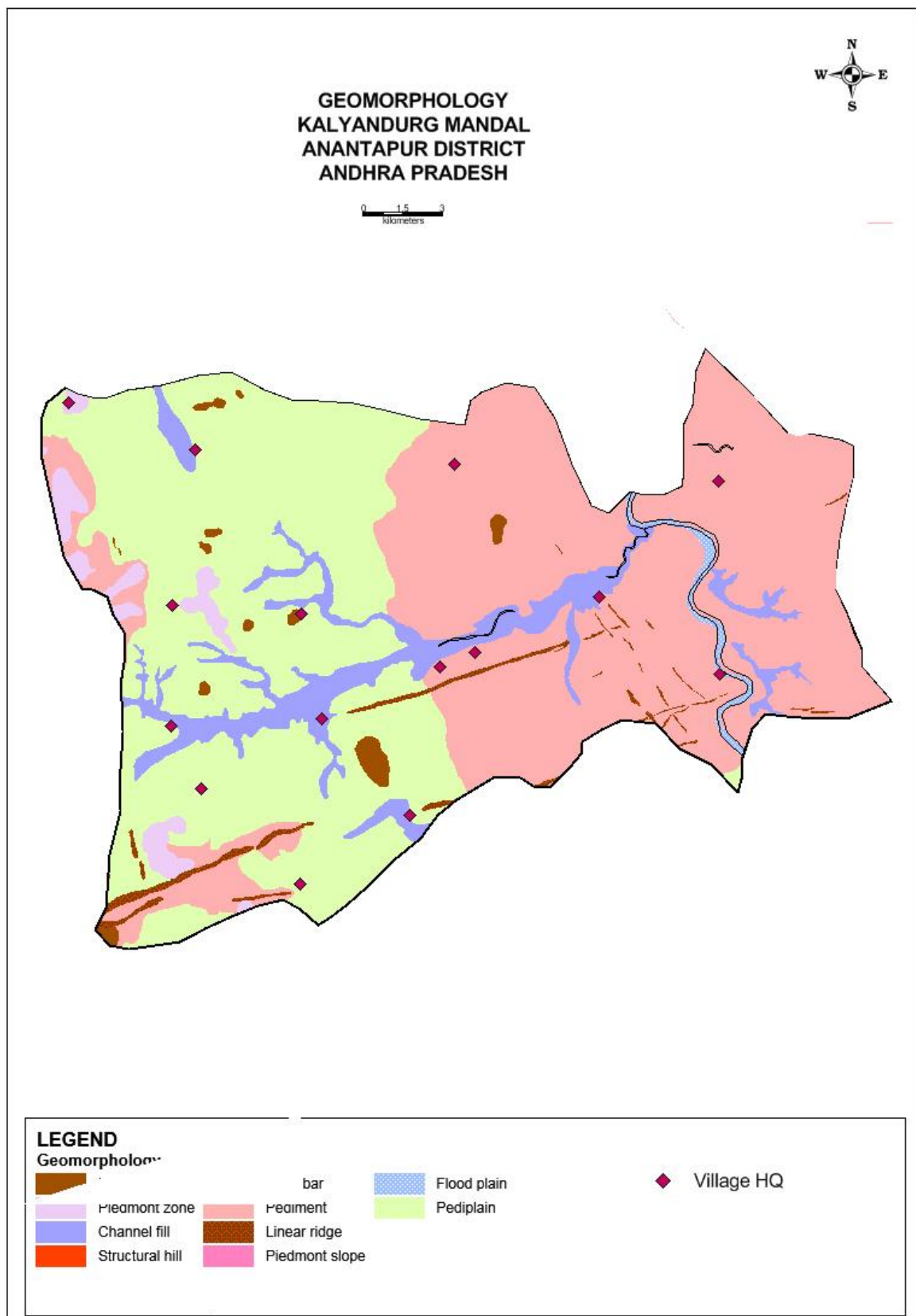


Fig.3

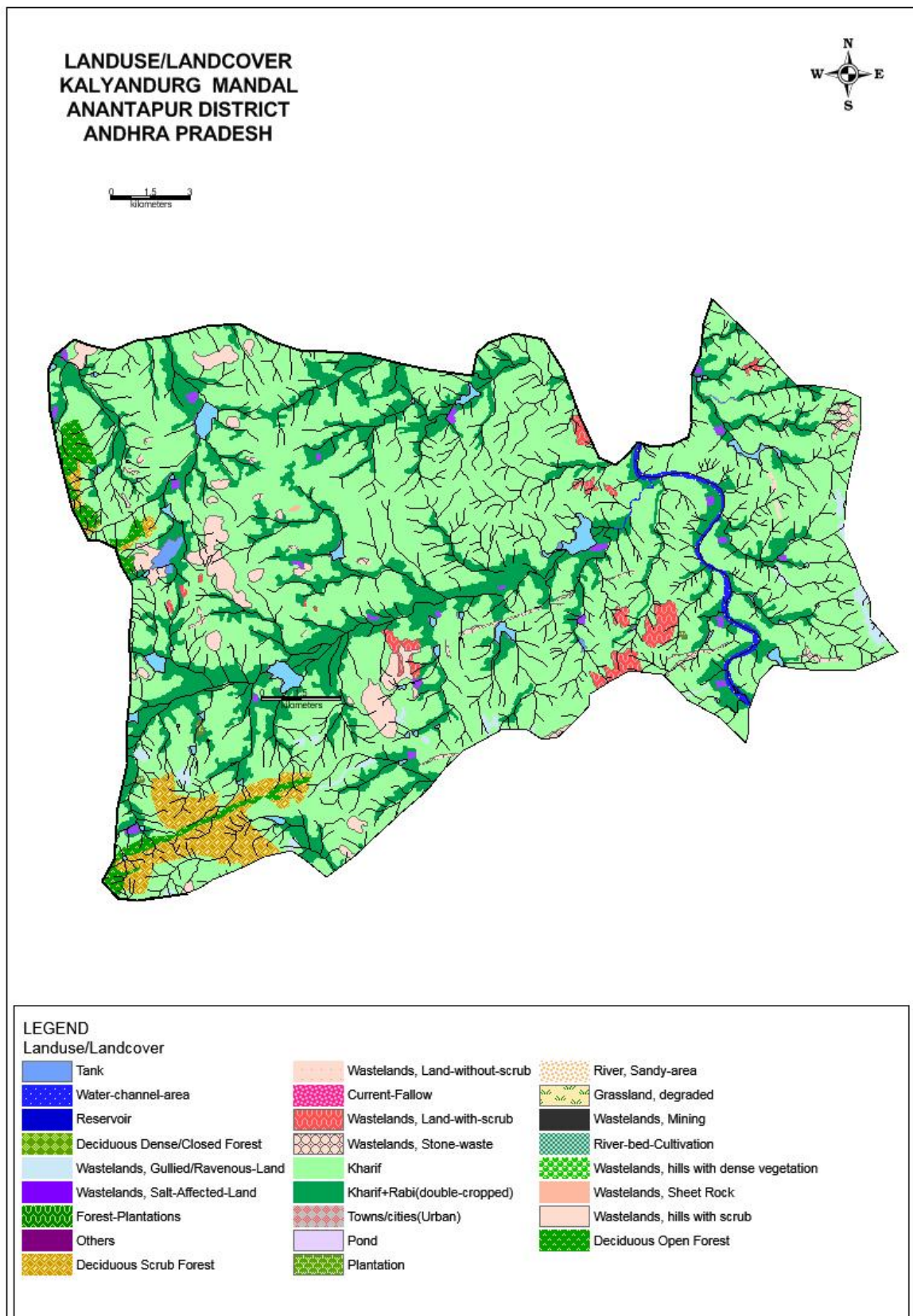


Fig.4

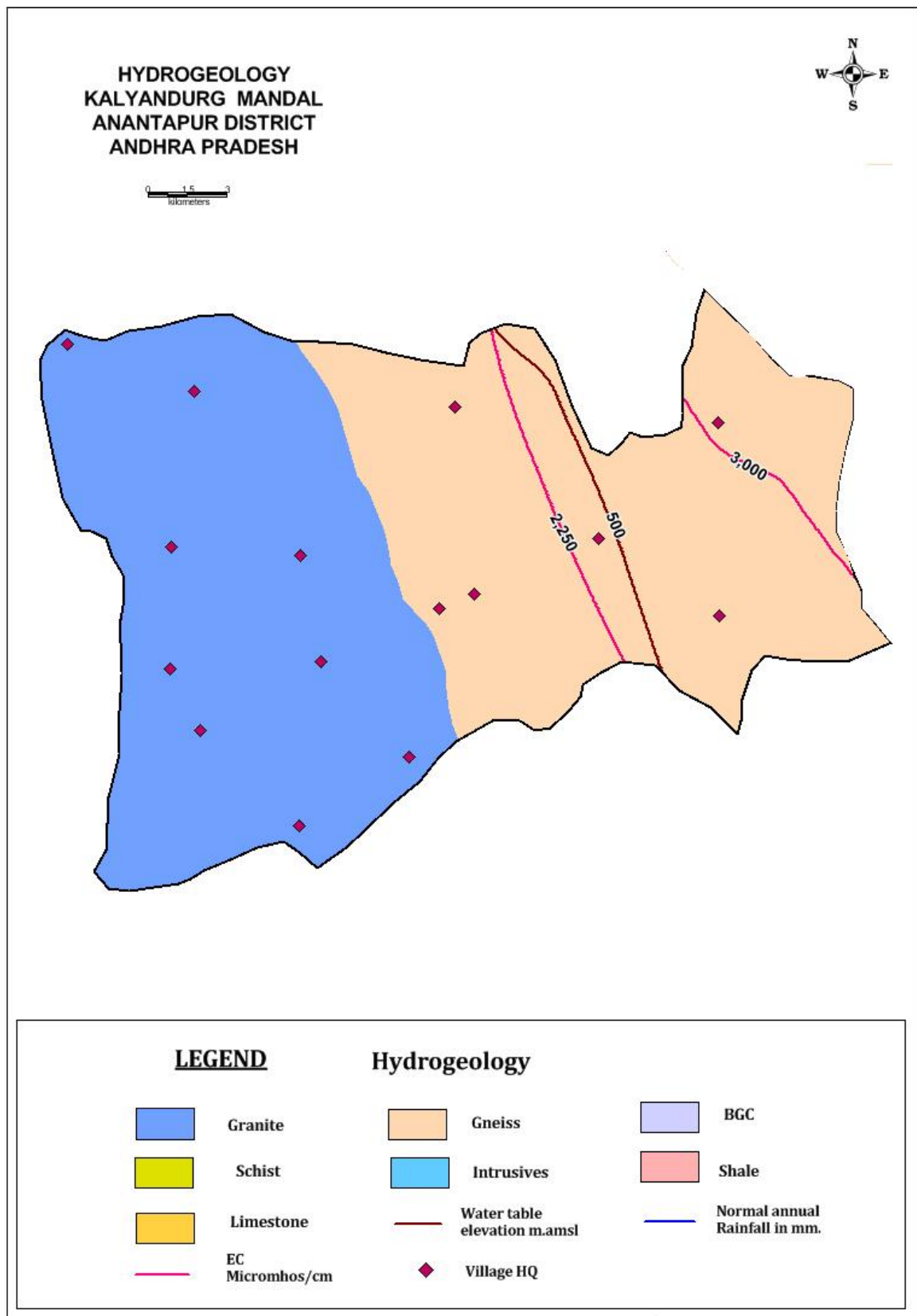


Fig.5

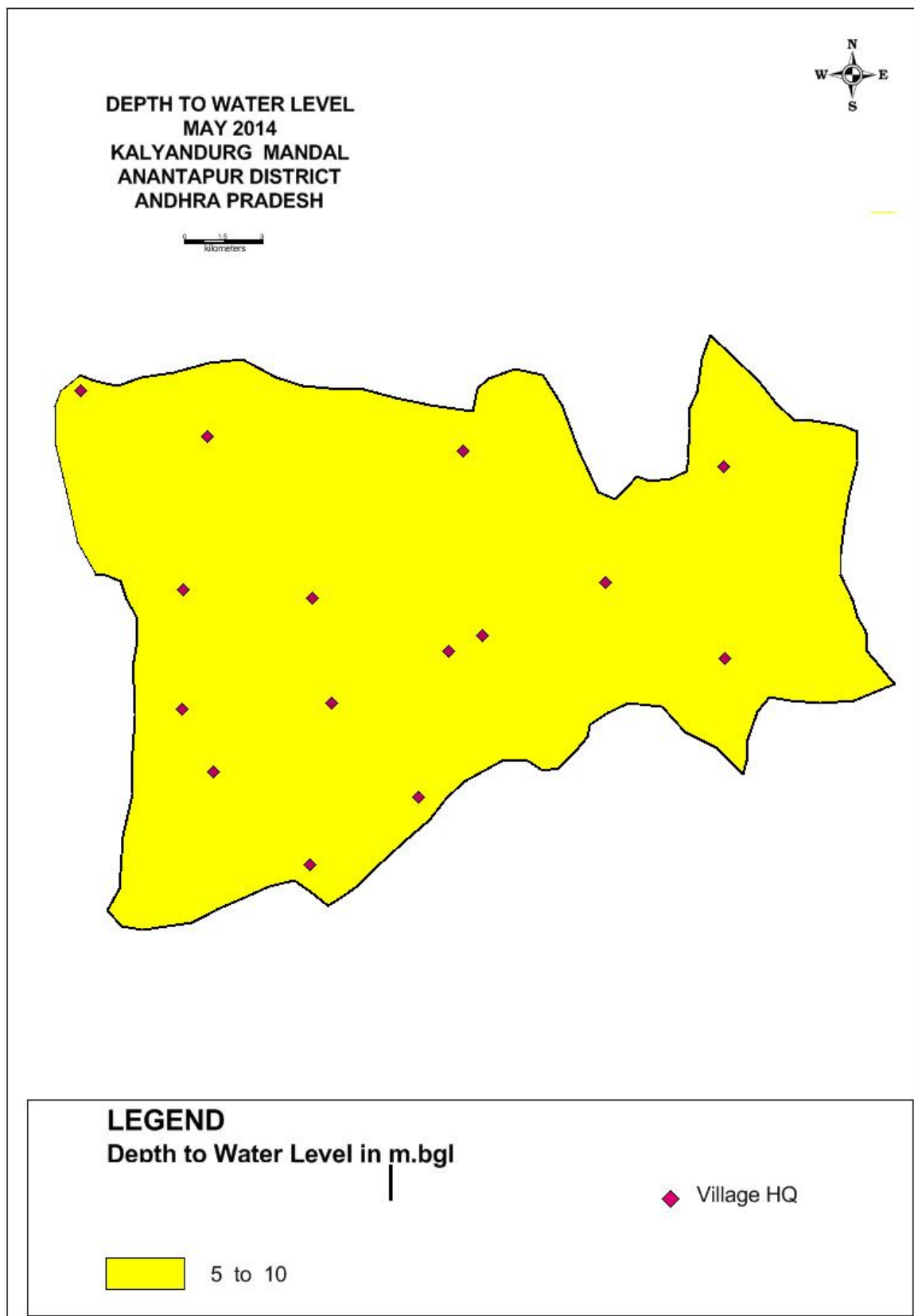


Fig.6

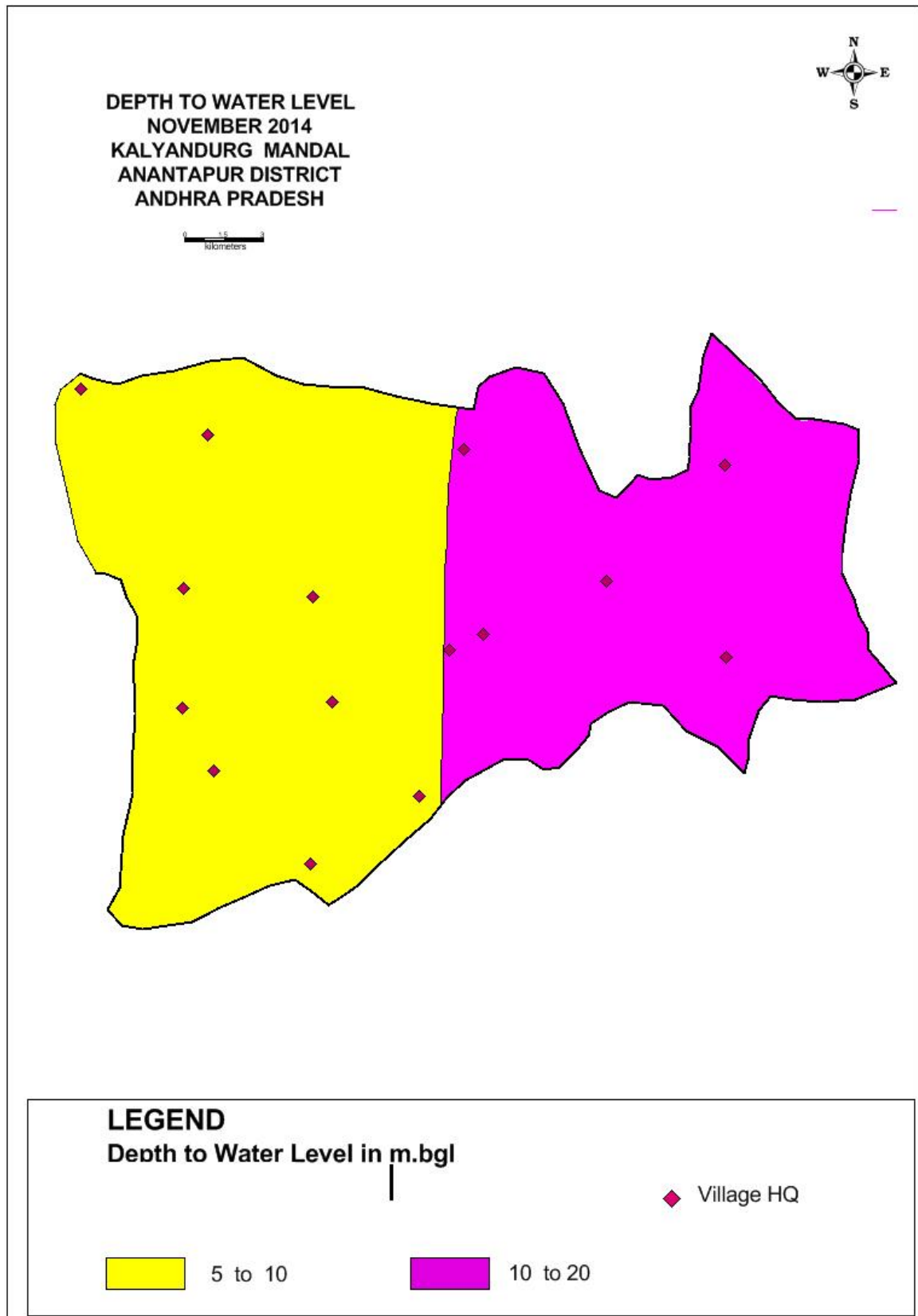


Fig.7

