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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
SANTHIPURAM MANDAL, CHITTOOR DISTRICT,
ANDHRA PRADESH

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

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AT A GLANCE

Name of the Mandal	SANTHIPURAM
District	CHITTOOR
State	ANDHRA PRADESH
Total Area(sq. km)	163
Area suitable for Artificial Recharge (sq.km.)	163
Latitude and Longitude	12.795290 to 12.938190 and 78.311830 to 78.475140.
Average Annual Rainfall (mm)	813
Geology	BGC
Average Depth To Water Level (Decadal) (Pre Monsoon)	22.4
Average Depth To Water Level (Decadal) (Post Monsoon)	15.6
Ground Water Resources (2011)	
Annual Replenishable Ground Water Resources (MCM/yr)	22.07
Net Annual Ground Water Availability(MCM)/yr	19.86
Net Annual Ground Water Draft(MCM)/yr	21.62
Projected Demand for Domestic and Industrial Use(MCM)/yr	2.00
Stage of Ground Water Development (%)	109
Runoff Yield in MCM/yr	28.66
Total Storage Created in the Mandal by Various Agencies (MCM)/yr	3.59
Artificial Recharge/Conservation Measures	
Recharge Structures Proposed (No.s)	Percolation Tanks: 15, Check Dams: 41 Farm ponds: 1200, Recharge Shafts: 254
Improving Water use Efficiency	Micro Irrigation System: 6000 ha
Tentative Total Cost in Lakhs (Rs.)	4803.75
Expected Recharge/Savings (MCM)/yr	22.936

1. INTRODUCTION

Santhipuram Mandal is one of the over-exploited Mandal in Chittoor district, Andhra Pradesh State, which is economically backward and chronically drought affected. The Mandal has 60 inhabited villages and with 23 gram panchayats.

2. LOCATION

The Mandal lies between north latitudes 12.795290 to 12.938190 and between east longitudes 78.311830 to 78.475140. The Mandal occupies the South-west part of the Chittoor district and is bounded on the north by Tamilnadu State, on the east by Ramakuppam mandal, on the south by Gudupalle Mandal and west by Tamilnadu State. (Fig.1) The geographical area of the Mandal is 163 sq.km.

3. PHYSIOGRAPHY AND DRAINAGE:

The area is drained by streams which are tributaries of Palar 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 813 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 163 sq.km, the net area sown is 60.8 sq.km. Barren and uncultivable land is 15.78 sq.km. The land for non agricultural use accounts for 13.13 sq.km.(Fig.3)

6. HYDROGEOLOGY

The area is underlain by granites and granitic gneisses of Archaean age (Fig.4). Ground water occurs in weathered and fractured zones under water table and semi- confined conditions. The weathered zone thickness as per the GEC report is 11m. The weathered zone has been extensively tapped by dug and dug cum bore wells upto 20 m depth, which are mostly dry now. Ground water occurs in the fractured granites up to 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 the pre-monsoon and post-monsoon varies from 10 to 20 m. The average depth to water level (decadal) during pre and post monsoon is 22.4 and 15.6 m bgl respectively. The depth to water levels maps for pre and post monsoon period (2014) are shown in Fig 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 Santhipuram Mandal Chittoor District are given in Table-1.

Table-1: Ground water resources of Santhipuram mandal, Chittoor district.

Annual Replenishable Ground water resources (MCM)	22.07
Net Annual Ground Water Availability(MCM)/yr	19.86
Net Annual Ground Water Draft(MCM)/yr	21.62
Projected Demand for Domestic and Industrial use up to 2025. (MCM)	2.00
Stage of Ground water development (%).	109
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 30 m. 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 in the Mandal.

10. JUSTIFICATION OF THE ARTIFICIAL RECHARGE PROJECT

Santhipuram Mandal falls under high stage of ground water development i.e., 109 % and with sufficient amount of uncommitted surface runoff. The area is completely dependent on ground water for domestic, industrial and irrigation purposes. During the monsoons 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)	163
Hilly Area (Sq.kms)	0.5
Area suitable for Artificial Recharge (sq.km.)	162.5
Runoff Yield in MCM/yr	28.66
Existing No. of Check Dams	179
Storage created MCM/yr	1.275
Existing No. of Percolation Tanks	327
Storage created MCM/yr	2.31
Total Existing Storage Created	3.59

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 25.07 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 is 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 813 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 rate.

Thus, a total of 41 **Check dams and 15 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 90 and 164 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 rain water 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 1200 farm ponds in 60 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 6000 ha @ 100 ha per village.

13. TENTATIVE COST ESTIMATES (SANTHIPURAM 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)	41	1.148	5	205	0.861
2	Recharge shaft in Check dam (50% of the existing Check dams)	90	0.99	0.5	45	0.99
3	Proposed Percolation Tanks (100*100*2.5)* 4 fillings)	15	1.5	15	225	1.125
4	Renovation Desilting, Repairs and installation of Recharge Shafts in existing PTS (50% of the existing PTS)	164	1.804	1	164	1.804
5	Proposed Farm Pond (6 filling) 5*5*1.5 dimension @ 20 farm ponds per each village	1200	0.1728	0.25	300	0.15552
6	Proposed Sprinkler/drip/HDPE pipes for 100 ha in each village	6000	36	0.6	3600	18
7	Proposed Piezometers up to 50 mbgl @ one PZ per Village	60	0	0.6	36	0
8 (i)	Total (No. of AR Structures)	1570	5.61		975	4.936
8 (ii)	Total (ha)	6000			3600	18
	Total (8(i) + 8 (ii))				4575	22.936
9	Impact Assessment & O & M -5 % of Total cost of the Scheme				228.75	
	Grand Total				4803.75	

*(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 22.936 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 109% to 50% (59%)
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
SANTHIPURAM MANDAL, CHITTOOR DISTRICT, AP

S.no	Gram Panchayat	Habitation	Structure Type	Longitude	Latitude	Scheme
1	Konerukuppam	Kolakthimmanapalle	Check Dam	78.3321	12.8937	NREGS
2	Konerukuppam	Kolakthimmanapalle	Check Dam	78.3306	12.8939	NREGS
3	Konerukuppam	Kolakthimmanapalle	Check Dam	78.3281	12.8967	NREGS
4	Konerukuppam	Kolakthimmanapalle	Check Dam	78.3360	12.8815	NREGS
5	Konerukuppam	Konerukuppam	Check Dam	78.3386	12.8919	NREGS
6	Konerukuppam	Konerukuppam	Check Dam	78.3387	12.8900	NREGS
7	Konerukuppam	Konerukuppam	Check Dam	78.3332	12.8940	NREGS
8	Konerukuppam	Konerukuppam	Check Dam	78.3460	12.8881	NREGS
9	Konerukuppam	Konerukuppam	Check Dam	78.3467	12.8720	NREGS
10	Konerukuppam	Konerukuppam	Check Dam	78.3405	12.8714	NREGS
11	Mullurukrishnapuram	Mulluru	Check Dam	78.4083	12.9038	NREGS
12	Nadimpalle	Nadimpalle	Check Dam	78.3773	12.8526	NREGS
13	Nadimpalle	Nadimpalle	Check Dam	78.3680	12.8634	NREGS
14	Nadimpalle	Nadimpalle	Check Dam	78.3647	12.8636	NREGS
15	Pedduru	J.B. Kothuru	Check Dam	78.3340	12.8991	NREGS
16	Pedduru	J.B. Kothuru	Check Dam	78.3346	12.9004	NREGS
17	Pedduru	Pedduru	Check Dam	78.3382	12.8928	NREGS
18	Pedduru	Pedduru	Check Dam	78.3368	12.8941	NREGS
19	Pedduru	Pedduru	Check Dam	78.3386	12.8902	NREGS
20	Pedduru	Pedduru	Check Dam	78.3383	12.8912	NREGS
21	Pedduru	Pedduru	Check Dam	78.3479	12.9024	NREGS
22	Morasanipalle	Jalliganipalle	Check Dam	78.3574	12.8733	NREGS
23	Morasanipalle	Kalamaladoddi	Check Dam	78.3822	12.8417	NREGS
24	Morasanipalle	Kalamaladoddi	Check Dam	78.3847	12.8386	NREGS
25	Morasanipalle	Narsimhapalle	Check Dam	78.3731	12.8434	NREGS
26	Morasanipalle	Narsimhapalle	Check Dam	78.3727	12.8423	NREGS
27	Morasanipalle	Narsimhapalle	Check Dam	78.3783	12.8155	NREGS
28	Chinnaradoddi	Chinnaradoddi	Check Dam	78.3654	12.8637	NREGS
29	Chinnaradoddi	Kothapeta	Check Dam	78.3591	12.8657	NREGS
30	Abakaladoddi	Veduruguttapalle	Check Dam	78.4049	12.8374	NREGS
31	Anikera	Anikera	Check Dam	78.3697	12.9175	NREGS
32	Anikera	Anikera	Check Dam	78.3696	12.9161	NREGS
33	Anikera	Anikera	Check Dam	78.3681	12.9155	NREGS
34	Anikera	Anikera	Check Dam	78.3611	12.9229	NREGS
35	Anikera	Anikera	Check Dam	78.3627	12.9132	NREGS
36	Anikera	Brahmanakothuru	Check Dam	78.3576	12.9089	NREGS
37	Anikera	Vadagandlapalle	Check Dam	78.3499	12.9208	NREGS
38	Anikera	Vadagandlapalle	Check Dam	78.3510	12.9184	NREGS
39	Anikera	Vadagandlapalle	Check Dam	78.3512	12.9170	NREGS
40	Anikera	Vadagandlapalle	Check Dam	78.3550	12.9152	NREGS
41	Karlagatta	Karlagatta	Check Dam	78.3528	12.8226	NREGS

42	Sivaramapuram	Gatturu	Check Dam	78.4343	12.8254	NREGS
43	Sivaramapuram	Nanjampeta	Check Dam	78.4300	12.8212	NREGS
44	Sivaramapuram	Nanjampeta	Check Dam	78.4252	12.8351	NREGS
45	Sivaramapuram	Nanjampeta	Check Dam	78.4258	12.8370	NREGS
46	Kanamakulapalle	Gadduru	Check Dam	78.4028	12.8833	NREGS
47	Kolamadugu	Oddumadi	Check Dam	78.4226	12.8477	NREGS
48	Kadapalle	Kadapalle	Check Dam	78.3756	12.8289	NREGS
49	Kadapalle	Kadiriobanapalle	Check Dam	78.3836	12.8350	NREGS
50	Kadapalle	Kadiriobanapalle	Check Dam	78.3899	12.8322	NREGS
51	Kadapalle	Kadiriobanapalle	Check Dam	78.3839	12.8358	NREGS
52	Kadapalle	Kadiriobanapalle	Check Dam	78.3784	12.8356	NREGS
53	Kadapalle	Kadiriobanapalle	Check Dam	78.3912	12.8295	NREGS
54	Kadapalle	Kadiriobanapalle	Check Dam	78.3993	12.8244	NREGS
55	Kadapalle	Madanapalle	Check Dam	78.3682	12.8143	NREGS
56	Kadapalle	Poduru	Check Dam	78.3687	12.8038	NREGS
57	Kadapalle	Poduru	Check Dam	78.3708	12.8046	NREGS
58	Kadapalle	Somarajapuram	Check Dam	78.3995	12.8205	NREGS
59	Kadapalle	Somarajapuram	Check Dam	78.4002	12.8178	NREGS
60	Kadapalle	Thimmarajupalle	Check Dam	78.3881	12.8238	NREGS
61	Kadapalle	Thimmarajupalle	Check Dam	78.3865	12.8257	NREGS
62	Kadapalle	Thimmarajupalle	Check Dam	78.3898	12.8209	NREGS
63	Kadapalle	Thimmarajupalle	Check Dam	78.3909	12.8189	NREGS
64	Mattam	Mattam	Check Dam	78.4252	12.8772	NREGS
65	Mattam	Mattam	Check Dam	78.4238	12.8819	NREGS
66	Mattam	Mottam	Check Dam	78.4208	12.8785	NREGS
67	Nadimpalle	Nadimpalle	Check Dam	78.3773	12.8526	IWMP
68	Nadimpalle	Nadimpalle	Check Dam	78.3680	12.8634	IWMP
69	Nadimpalle	Nadimpalle	Check Dam	78.3647	12.8636	IWMP
70	Morasanipalle	Jalliganipalle	Check Dam	78.3574	12.8733	IWMP
71	Morasanipalle	Kalamaladoddi	Check Dam	78.3822	12.8417	IWMP
72	Morasanipalle	Kalamaladoddi	Check Dam	78.3847	12.8386	IWMP
73	Morasanipalle	Narsimhapalle	Check Dam	78.3731	12.8434	IWMP
74	Morasanipalle	Narsimhapalle	Check Dam	78.3727	12.8423	IWMP
75	Morasanipalle	Narsimhapalle	Check Dam	78.3783	12.8155	IWMP
76	Karlagatta	Karlagatta	Check Dam	78.3528	12.8226	IWMP
77	Kadapalle	Kadapalle	Check Dam	78.3756	12.8289	IWMP
78	Kadapalle	Kadiriobanapalle	Check Dam	78.3836	12.8350	IWMP
79	Kadapalle	Kadiriobanapalle	Check Dam	78.3899	12.8322	IWMP
80	Kadapalle	Kadiriobanapalle	Check Dam	78.3839	12.8358	IWMP
81	Kadapalle	Kadiriobanapalle	Check Dam	78.3784	12.8356	IWMP
82	Kadapalle	Kadiriobanapalle	Check Dam	78.3912	12.8295	IWMP
83	Kadapalle	Kadiriobanapalle	Check Dam	78.3993	12.8244	IWMP
84	Kadapalle	Madanapalle	Check Dam	78.3682	12.8143	IWMP
85	Kadapalle	Poduru	Check Dam	78.3687	12.8038	IWMP
86	Kadapalle	Poduru	Check Dam	78.3708	12.8046	IWMP
87	Kadapalle	Somarajapuram	Check Dam	78.3995	12.8205	IWMP

88	Kadapalle	Somarajupuram	Check Dam	78.4002	12.8178	IWMP
89	Kadapalle	Thimmarajupalle	Check Dam	78.3881	12.8238	IWMP
90	Kadapalle	Thimmarajupalle	Check Dam	78.3865	12.8257	IWMP
91	Kadapalle	Thimmarajupalle	Check Dam	78.3898	12.8209	IWMP
92	Kadapalle	Thimmarajupalle	Check Dam	78.3909	12.8189	IWMP
93	Konerukuppam	Kolakthimmanapalle	Check Wall	78.3275	12.8959	NREGS
94	Konerukuppam	Kolakthimmanapalle	Check Wall	78.3397	12.8877	NREGS
95	Konerukuppam	Konerukuppam	Check Wall	78.3377	12.8761	NREGS
96	Nadimpalle	Nadimpalle	Check Wall	78.3729	12.8543	NREGS
97	Nadimpalle	Nadimpalle	Check Wall	78.3664	12.8633	NREGS
98	Nadimpalle	Nadimpalle	Check Wall	78.3700	12.8637	NREGS
99	Nadimpalle	Nadimpalle	Check Wall	78.3685	12.8632	NREGS
100	Pedduru	J.B. Kothuru	Check Wall	78.3323	12.9018	NREGS
101	Pedduru	Pedduru	Check Wall	78.3484	12.9028	NREGS
102	Pedduru	Pedduru	Check Wall	78.3465	12.9045	NREGS
103	Pedduru	Pedduru	Check Wall	78.3493	12.9019	NREGS
104	Regadadonna palle	Regadadinnepalle	Check Wall	78.3702	12.9017	NREGS
105	Regadadonna palle	Regadadinnepalle	Check Wall	78.3706	12.9042	NREGS
106	Regadadonna palle	Regadadinnepalle	Check Wall	78.3693	12.9041	NREGS
107	Regadadonna palle	Regadadinnepalle	Check Wall	78.3688	12.9027	NREGS
108	Regadadonna palle	Regadadinnepalle	Check Wall	78.3684	12.9007	NREGS
109	Morasanipalle	Morasanapalle	Check Wall	78.3824	12.8485	NREGS
110	30 sonneganipalle	30 Sonnegownipalle	Check Wall	78.4254	12.9020	NREGS
111	30 sonneganipalle	30 Sonnegownipalle	Check Wall	78.4329	12.8958	NREGS
112	30 sonneganipalle	Gundisettipalli	Check Wall	78.4295	12.8923	NREGS
113	30 sonneganipalle	Gundisettipalli	Check Wall	78.4307	12.8983	NREGS
114	30 sonneganipalle	Gundisettipalli	Check Wall	78.4311	12.8961	NREGS
115	Chenguballa	Sogadaballa	Check Wall	78.3847	12.9070	NREGS
116	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3571	12.8575	NREGS
117	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3583	12.8596	NREGS
118	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3673	12.8667	NREGS
119	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3564	12.8568	NREGS
120	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3547	12.8570	NREGS
121	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3654	12.8609	NREGS
122	Chinnaradoddi	Chinnaradoddi	Check Wall	78.3662	12.8636	NREGS
123	Chinnaradoddi	Gollapalle	Check Wall	78.3555	12.8754	NREGS
124	Chinnaradoddi	Kothapeta	Check Wall	78.3530	12.8635	NREGS
125	Chinnaradoddi	Kothapeta	Check Wall	78.3562	12.8722	NREGS
126	Anikera	Brahmanakothuru	Check Wall	78.3609	12.9105	NREGS
127	Gunjarlapalle	Chinthakampalle	Check Wall	78.3563	12.8724	NREGS
128	Gunjarlapalle	Chinthakampalle	Check Wall	78.3558	12.8738	NREGS
129	Gunjarlapalle	Nakkanapalle	Check Wall	78.3735	12.8672	NREGS
130	C.bandapalle	Chinnuru	Check Wall	78.3331	12.8331	NREGS
131	C.bandapalle	Chinnuru	Check Wall	78.3311	12.8333	NREGS
132	64 pedduru	64pedduru	Check Wall	78.3202	12.8368	NREGS
133	64 pedduru	64pedduru	Check Wall	78.3182	12.8349	NREGS

134	64 pedduru	Gesikapalle	Check Wall	78.3216	12.8453	NREGS
135	64 pedduru	Solisettipalle	Check Wall	78.3234	12.8544	NREGS
136	64 pedduru	Somapuram	Check Wall	78.3332	12.8249	NREGS
137	64 pedduru	Somapuram	Check Wall	78.3378	12.8297	NREGS
138	Karlagatta	Karlagatta	Check Wall	78.3554	12.8234	NREGS
139	Karlagatta	Preethichamanuru	Check Wall	78.3530	12.8191	NREGS
140	Karlagatta	Preethichamanuru	Check Wall	78.3555	12.8162	NREGS
141	Karlagatta	Venkatapuram	Check Wall	78.3534	12.8223	NREGS
142	Rallaboduguru	Sathu	Check Wall	78.3243	12.8684	NREGS
143	Sivaramapuram	Gatturu	Check Wall	78.4352	12.8241	NREGS
144	Sivaramapuram	Nanjampeta	Check Wall	78.4301	12.8249	NREGS
145	Sivaramapuram	Nanjampeta	Check Wall	78.4302	12.8228	NREGS
146	Sivaramapuram	Sivaramapuram	Check Wall	78.4298	12.8220	NREGS
147	Kanamakulapalle	Boyanapalle	Check Wall	78.4036	12.8889	NREGS
148	Kanamakulapalle	Eddulapalle	Check Wall	78.3874	12.8833	NREGS
149	Kanamakulapalle	Kenamakulapalle	Check Wall	78.3853	12.8851	NREGS
150	Kanamakulapalle	Siddavooru	Check Wall	78.3957	12.9056	NREGS
151	Kanamakulapalle	Siddavooru	Check Wall	78.3952	12.9065	NREGS
152	Kanamakulapalle	Venkatapalle	Check Wall	78.3901	12.8951	NREGS
153	Kadapalle	Kadiriobanapalle	Check Wall	78.3838	12.8336	NREGS
154	Kadapalle	Kadiriobanapalle	Check Wall	78.3812	12.8342	NREGS
155	Kadapalle	Kadiriobanapalle	Check Wall	78.3804	12.8353	NREGS
156	Kadapalle	Somarajapuram	Check Wall	78.3994	12.8227	NREGS
157	Mattam	Mattam	Check Wall	78.4239	12.8814	NREGS
158	Nadimpalle	Nadimpalle	Check Wall	78.3729	12.8543	IWMP
159	Nadimpalle	Nadimpalle	Check Wall	78.3664	12.8633	IWMP
160	Nadimpalle	Nadimpalle	Check Wall	78.3700	12.8637	IWMP
161	Nadimpalle	Nadimpalle	Check Wall	78.3685	12.8632	IWMP
162	Morasanipalle	Morasanapalle	Check Wall	78.3824	12.8485	IWMP
163	Gunjarlapalle	Chinthakampalle	Check Wall	78.3563	12.8724	IWMP
164	Gunjarlapalle	Chinthakampalle	Check Wall	78.3558	12.8738	IWMP
165	Gunjarlapalle	Nakkanapalle	Check Wall	78.3735	12.8672	IWMP
166	64 pedduru	64pedduru	Check Wall	78.3202	12.8368	IWMP
167	64 pedduru	64pedduru	Check Wall	78.3182	12.8349	IWMP
168	64 pedduru	Gesikapalle	Check Wall	78.3216	12.8453	IWMP
169	64 pedduru	Solisettipalle	Check Wall	78.3234	12.8544	IWMP
170	64 pedduru	Somapuram	Check Wall	78.3332	12.8249	IWMP
171	64 pedduru	Somapuram	Check Wall	78.3378	12.8297	IWMP
172	Karlagatta	Karlagatta	Check Wall	78.3554	12.8234	IWMP
173	Karlagatta	Preethichamanuru	Check Wall	78.3530	12.8191	IWMP
174	Karlagatta	Preethichamanuru	Check Wall	78.3555	12.8162	IWMP
175	Karlagatta	Venkatapuram	Check Wall	78.3534	12.8223	IWMP
176	Kadapalle	Kadiriobanapalle	Check Wall	78.3838	12.8336	IWMP
177	Kadapalle	Kadiriobanapalle	Check Wall	78.3812	12.8342	IWMP
178	Kadapalle	Kadiriobanapalle	Check Wall	78.3804	12.8353	IWMP
179	Kadapalle	Somarajapuram	Check Wall	78.3994	12.8227	IWMP

180	Mullurukrishnapuram	M.Krishnapuram	MPT	78.4134	12.8933	NREGS
181	Mullurukrishnapuram	Mulluru	MPT	78.4089	12.9026	NREGS
182	Mullurukrishnapuram	Mulluru	MPT	78.4230	12.8958	NREGS
183	Pedduru	Pedduru	MPT	78.3324	12.8943	NREGS
184	Regadadonna palle	Regadadinnepalles	MPT	78.3673	12.9046	NREGS
185	Regadadonna palle	Regadadinnepalles	MPT	78.3658	12.9047	NREGS
186	Morasanipalle	Jalliganipalle	MPT	78.3706	12.8402	NREGS
187	Morasanipalle	Kalamaladoddi	MPT	78.3854	12.8437	NREGS
188	Morasanipalle	Kalamaladoddi	MPT	78.3861	12.8399	NREGS
189	Morasanipalle	Narsimhapalle	MPT	78.3733	12.8413	NREGS
190	Morasanipalle	Narsimhapalle	MPT	78.3725	12.8418	NREGS
191	Chenguballa	Sogadeballe	MPT	78.3892	12.9051	NREGS
192	Chenguballa	Sogadeballe	MPT	78.3873	12.9072	NREGS
193	Chinnaradoddi	Chinnaradoddi	MPT	78.3629	12.8553	NREGS
194	Chinnaradoddi	Chinnaradoddi	MPT	78.3589	12.8530	NREGS
195	Chinnaradoddi	Chinnaradoddi	MPT	78.3605	12.8549	NREGS
196	Chinnaradoddi	Chinnaradoddi	MPT	78.3667	12.8650	NREGS
197	Chinnaradoddi	Gollapalle	MPT	78.3555	12.8749	NREGS
198	Chinnaradoddi	Kondathimmanapalle	MPT	78.3456	12.8672	NREGS
199	Chinnaradoddi	Kothapeta	MPT	78.3559	12.8733	NREGS
200	Chinnaradoddi	Kothapeta	MPT	78.3537	12.8635	NREGS
201	Chinnaradoddi	Kothapeta	MPT	78.3529	12.8597	NREGS
202	Dandikuppam	Dandikuppam	MPT	78.4464	12.8680	NREGS
203	Dandikuppam	Dandikuppam	MPT	78.4343	12.8800	NREGS
204	Dandikuppam	Dandikuppam	MPT	78.4454	12.8667	NREGS
205	Dandikuppam	Dandikuppam	MPT	78.4456	12.8658	NREGS
206	Dandikuppam	Nimmanapalle	MPT	78.4464	12.8687	NREGS
207	Dandikuppam	Nimmanapalle	MPT	78.4471	12.8686	NREGS
208	Dandikuppam	Nimmanapalle	MPT	78.4473	12.8663	NREGS
209	Dandikuppam	Nimmanapalle	MPT	78.4476	12.8674	NREGS
210	Dandikuppam	Nimmanapalle	MPT	78.4471	12.8681	NREGS
211	Dandikuppam	Nimmanapalle	MPT	78.4469	12.8695	NREGS
212	Abakaladoddi	Abakaladoddi	MPT	78.3986	12.8529	NREGS
213	Abakaladoddi	Abakaladoddi	MPT	78.3995	12.8361	NREGS
214	Abakaladoddi	Abakaladoddi	MPT	78.4025	12.8401	NREGS
215	Abakaladoddi	Abakaladoddi	MPT	78.4041	12.8387	NREGS
216	Abakaladoddi	Abakaladoddi	MPT	78.4028	12.8396	NREGS
217	Abakaladoddi	Jangalapalle	MPT	78.4003	12.8442	NREGS
218	Abakaladoddi	Jangalapalle	MPT	78.3992	12.8579	NREGS
219	Abakaladoddi	Kakarlavanka	MPT	78.4000	12.8431	NREGS
220	Abakaladoddi	Veduruguttapalle	MPT	78.4035	12.8374	NREGS
221	Abakaladoddi	Veduruguttapalle	MPT	78.3981	12.8396	NREGS
222	Anikera	Brahmanakothuru	MPT	78.3580	12.9108	NREGS
223	Gunjarlapalle	Chinthakampalle	MPT	78.3566	12.8728	NREGS
224	Gunjarlapalle	Chinthakampalle	MPT	78.3602	12.8768	NREGS
225	Gunjarlapalle	Chinthakampalle	MPT	78.3591	12.8684	NREGS

226	C.bandapalle	Chinnuru	MPT	78.3322	12.8366	NREGS
227	C.bandapalle	Chinnuru	MPT	78.3293	12.8354	NREGS
228	C.bandapalle	Chinnuru	MPT	78.3303	12.8332	NREGS
229	C.bandapalle	Muddanapalle	MPT	78.3170	12.8431	NREGS
230	C.bandapalle	Muddanapalle	MPT	78.3165	12.8436	NREGS
231	64 pedduru	64 Pedduru	MPT	78.3310	12.8271	NREGS
232	64 pedduru	64pedduru	MPT	78.3325	12.8278	NREGS
233	64 pedduru	64pedduru	MPT	78.3314	12.8268	NREGS
234	64 pedduru	64pedduru	MPT	78.3335	12.8284	NREGS
235	64 pedduru	Gesikapalle	MPT	78.3167	12.8437	NREGS
236	64 pedduru	Gesikapalle	MPT	78.3157	12.8549	NREGS
237	64 pedduru	Somapuram	MPT	78.3285	12.8252	NREGS
238	64 pedduru	Somapuram	MPT	78.3332	12.8274	NREGS
239	64 pedduru	Somapuram	MPT	78.3334	12.8254	NREGS
240	64 pedduru	Somapuram	MPT	78.3457	12.8294	NREGS
241	64 pedduru	Somapuram	MPT	78.3451	12.8295	NREGS
242	64 pedduru	Somapuram	MPT	78.3368	12.8261	NREGS
243	64 pedduru	Somapuram	MPT	78.3328	12.8264	NREGS
244	64 pedduru	Somapuram	MPT	78.3366	12.8307	NREGS
245	64 pedduru	Somapuram	MPT	78.3366	12.8247	NREGS
246	64 pedduru	Somapuram	MPT	78.3370	12.8294	NREGS
247	Karlagatta	Karlagatta	MPT	78.3546	12.8236	NREGS
248	Karlagatta	Karlagatta	MPT	78.3599	12.8229	NREGS
249	Karlagatta	Preethichamanuru	MPT	78.3538	12.8177	NREGS
250	Karlagatta	Preethichamanuru	MPT	78.3540	12.8171	NREGS
251	Karlagatta	Preethichamanuru	MPT	78.3584	12.8179	NREGS
252	Karlagatta	Venkatapuram	MPT	78.3518	12.8214	NREGS
253	Karlagatta	Venkatapuram	MPT	78.3503	12.8218	NREGS
254	Karlagatta	Venkatapuram	MPT	78.3515	12.8233	NREGS
255	Rallaboduguru	Bandathimmanapalle	MPT	78.3502	12.8446	NREGS
256	Rallaboduguru	Bandathimmanapalle	MPT	78.3502	12.8426	NREGS
257	Rallaboduguru	Bandathimmanapalle	MPT	78.3554	12.8424	NREGS
258	Rallaboduguru	Bandathimmanapalle	MPT	78.3551	12.8438	NREGS
259	Rallaboduguru	Bandathimmanapalle	MPT	78.3569	12.8409	NREGS
260	Rallaboduguru	Bandathimmanapalle	MPT	78.3551	12.8430	NREGS
261	Rallaboduguru	Bandathimmanapalle	MPT	78.3546	12.8446	NREGS
262	Rallaboduguru	Gollapalle	MPT	78.3535	12.8395	NREGS
263	Rallaboduguru	Rallabaduguru	MPT	78.3392	12.8520	NREGS
264	Rallaboduguru	Rallabaduguru	MPT	78.3544	12.8432	NREGS
265	Rallaboduguru	Rallabaduguru	MPT	78.3506	12.8417	NREGS
266	Rallaboduguru	Ramagaripalle	MPT	78.3371	12.8532	NREGS
267	Rallaboduguru	Sathu	MPT	78.3336	12.8733	NREGS
268	Rallaboduguru	Settigarikuraburu	MPT	78.3477	12.8464	NREGS
269	Rallaboduguru	Settigarikuraburu	MPT	78.3552	12.8417	NREGS
270	Sivaramapuram	Nanjampeta	MPT	78.4363	12.8333	NREGS
271	Kanamakulapalle	Eddulapalle	MPT	78.3824	12.8748	NREGS

272	Kanamakulapalle	Kenamakulapalle	MPT	78.3885	12.8712	NREGS
273	Kanamakulapalle	Kenamakulapalle	MPT	78.3881	12.8771	NREGS
274	Kanamakulapalle	Kenamakulapalle	MPT	78.3882	12.8728	NREGS
275	Kanamakulapalle	Kenamakulapalle	MPT	78.3880	12.8724	NREGS
276	Kolamadugu	Redlapalle	MPT	78.4223	12.8507	NREGS
277	Kadapalle	Kadapalle	MPT	78.3725	12.8133	NREGS
278	Kadapalle	Kadiriobanapalle	MPT	78.3762	12.8307	NREGS
279	Kadapalle	Kadiriobanapalle	MPT	78.3756	12.8316	NREGS
280	Kadapalle	Kaliganuru	MPT	78.3761	12.8327	NREGS
281	Kadapalle	Madanapalle	MPT	78.3682	12.8210	NREGS
282	Kadapalle	Madanapalle	MPT	78.3682	12.8182	NREGS
283	Kadapalle	Madanapalle	MPT	78.3656	12.8179	NREGS
284	Kadapalle	Madanapalle	MPT	78.3660	12.8188	NREGS
285	Kadapalle	Somarajapuram	MPT	78.4034	12.8196	NREGS
286	Mattam	Santhuru	MPT	78.4571	12.8862	NREGS
287	Mattam	Santhuru	MPT	78.4558	12.8813	NREGS
288	Mattam	Santhuru	MPT	78.4554	12.8862	NREGS
289	Mattam	Santhuru	MPT	78.4571	12.8820	NREGS
290	Mattam	Santhuru	MPT	78.4555	12.8796	NREGS
291	Morasanipalle	Jalliganipalle	MPT	78.3706	12.8402	IWMP
292	Morasanipalle	Kalamaladoddi	MPT	78.3854	12.8437	IWMP
293	Morasanipalle	Kalamaladoddi	MPT	78.3861	12.8399	IWMP
294	Morasanipalle	Narsimhapalle	MPT	78.3733	12.8413	IWMP
295	Morasanipalle	Narsimhapalle	MPT	78.3725	12.8418	IWMP
296	Gunjarlapalle	Chinthakampalle	MPT	78.3566	12.8728	IWMP
297	Gunjarlapalle	Chinthakampalle	MPT	78.3602	12.8768	IWMP
298	Gunjarlapalle	Chinthakampalle	MPT	78.3591	12.8684	IWMP
299	64 pedduru	64pedduru	MPT	78.3325	12.8278	IWMP
300	64 pedduru	64pedduru	MPT	78.3314	12.8268	IWMP
301	64 pedduru	64pedduru	MPT	78.3335	12.8284	IWMP
302	64 pedduru	Gesikapalle	MPT	78.3167	12.8437	IWMP
303	64 pedduru	Gesikapalle	MPT	78.3157	12.8549	IWMP
304	64 pedduru	Somapuram	MPT	78.3285	12.8252	IWMP
305	64 pedduru	Somapuram	MPT	78.3332	12.8274	IWMP
306	64 pedduru	Somapuram	MPT	78.3334	12.8254	IWMP
307	64 pedduru	Somapuram	MPT	78.3457	12.8294	IWMP
308	64 pedduru	Somapuram	MPT	78.3451	12.8295	IWMP
309	64 pedduru	Somapuram	MPT	78.3368	12.8261	IWMP
310	64 pedduru	Somapuram	MPT	78.3328	12.8264	IWMP
311	64 pedduru	Somapuram	MPT	78.3366	12.8307	IWMP
312	64 pedduru	Somapuram	MPT	78.3366	12.8247	IWMP
313	64 pedduru	Somapuram	MPT	78.3370	12.8294	IWMP
314	Karlagatta	Karlagatta	MPT	78.3546	12.8236	IWMP
315	Karlagatta	Karlagatta	MPT	78.3599	12.8229	IWMP
316	Karlagatta	Preethichamanuru	MPT	78.3538	12.8177	IWMP
317	Karlagatta	Preethichamanuru	MPT	78.3540	12.8171	IWMP

318	Karlagatta	Preethichamanuru	MPT	78.3584	12.8179	IWMP
319	Karlagatta	Venkatapuram	MPT	78.3518	12.8214	IWMP
320	Karlagatta	Venkatapuram	MPT	78.3503	12.8218	IWMP
321	Karlagatta	Venkatapuram	MPT	78.3515	12.8233	IWMP
322	Rallaboduguru	Bandathimmanapalle	MPT	78.3502	12.8446	IWMP
323	Rallaboduguru	Bandathimmanapalle	MPT	78.3502	12.8426	IWMP
324	Rallaboduguru	Bandathimmanapalle	MPT	78.3554	12.8424	IWMP
325	Rallaboduguru	Bandathimmanapalle	MPT	78.3551	12.8438	IWMP
326	Rallaboduguru	Bandathimmanapalle	MPT	78.3569	12.8409	IWMP
327	Rallaboduguru	Bandathimmanapalle	MPT	78.3551	12.8430	IWMP
328	Rallaboduguru	Bandathimmanapalle	MPT	78.3546	12.8446	IWMP
329	Rallaboduguru	Gollapalle	MPT	78.3535	12.8395	IWMP
330	Rallaboduguru	Rallabaduguru	MPT	78.3392	12.8520	IWMP
331	Rallaboduguru	Rallabaduguru	MPT	78.3544	12.8432	IWMP
332	Rallaboduguru	Rallabaduguru	MPT	78.3506	12.8417	IWMP
333	Rallaboduguru	Ramagaripalle	MPT	78.3371	12.8532	IWMP
334	Rallaboduguru	Settigarikuraburu	MPT	78.3477	12.8464	IWMP
335	Rallaboduguru	Settigarikuraburu	MPT	78.3552	12.8417	IWMP
336	Kadapalle	Kadapalle	MPT	78.3725	12.8133	IWMP
337	Kadapalle	Kadiriobanapalle	MPT	78.3762	12.8307	IWMP
338	Kadapalle	Kadiriobanapalle	MPT	78.3756	12.8316	IWMP
339	Kadapalle	Kaliganuru	MPT	78.3761	12.8327	IWMP
340	Kadapalle	Madanapalle	MPT	78.3682	12.8210	IWMP
341	Kadapalle	Madanapalle	MPT	78.3682	12.8182	IWMP
342	Kadapalle	Madanapalle	MPT	78.3656	12.8179	IWMP
343	Kadapalle	Madanapalle	MPT	78.3660	12.8188	IWMP
344	Kadapalle	Somarajupuram	MPT	78.4034	12.8196	IWMP
345	Konerukuppam	Konerukuppam	PT	78.3392	12.8760	NREGS
346	Konerukuppam	Konerukuppam	PT	78.3420	12.8714	NREGS
347	Mullurukrishnapuram	Mulluru	PT	78.4101	12.9034	NREGS
348	Pedduru	J.B. Kothuru	PT	78.3415	12.9052	NREGS
349	Pedduru	Pedduru	PT	78.3362	12.8924	NREGS
350	Pedduru	Pedduru	PT	78.3352	12.8941	NREGS
351	Pedduru	Pedduru	PT	78.3475	12.9073	NREGS
352	Pedduru	Pedduru	PT	78.3461	12.9076	NREGS
353	Pedduru	Pedduru	PT	78.3447	12.9077	NREGS
354	Pedduru	Pedduru	PT	78.3435	12.9079	NREGS
355	Pedduru	Pedduru	PT	78.3342	12.8945	NREGS
356	Pedduru	Pedduru	PT	78.3467	12.9033	NREGS
357	Regadadinna palle	Chinagandlapalle	PT	78.4029	12.9095	NREGS
358	Regadadinna palle	Nallappareddiyuru	PT	78.3788	12.9166	NREGS
359	Regadadinna palle	Nallappareddiyuru	PT	78.3748	12.9098	NREGS
360	Regadadinna palle	Regadadinnepalle	PT	78.3682	12.9031	NREGS
361	Regadadinna palle	Regadadinnepalle	PT	78.3680	12.9043	NREGS
362	Regadadinna palle	Regadadinnepalle	PT	78.3651	12.9043	NREGS
363	Regadadinna palle	Regadadinnepalle	PT	78.3645	12.9016	NREGS

364	Regadadinna palle	Regadadinnepalle	PT	78.3674	12.9011	NREGS
365	Morasanipalle	Jalliganipalle	PT	78.3711	12.8416	NREGS
366	Morasanipalle	Jalliganipalle	PT	78.3704	12.8414	NREGS
367	Morasanipalle	Kalamaladoddi	PT	78.3860	12.8430	NREGS
368	Morasanipalle	Morasanapalle	PT	78.3806	12.8501	NREGS
369	Thummisi	Thulasinayanipalle	PT	78.3855	12.8489	NREGS
370	Thummisi	Thulasinayanipalle	PT	78.3895	12.8497	NREGS
371	Thummisi	Thulasinayanipalle	PT	78.3911	12.8489	NREGS
372	30 sonneganipalle	30 Sonnegownipalle	PT	78.4375	12.9108	NREGS
373	30 sonneganipalle	30 Sonnegownipalle	PT	78.4442	12.9054	NREGS
374	30 sonneganipalle	30 Sonnegownipalle	PT	78.4448	12.8972	NREGS
375	30 sonneganipalle	30 Sonnegownipalle	PT	78.4399	12.8996	NREGS
376	30 sonneganipalle	30 Sonnegownipalle	PT	78.4378	12.9010	NREGS
377	30 sonneganipalle	30 Sonnegownipalle	PT	78.4384	12.8983	NREGS
378	30 sonneganipalle	Gundisettipalli	PT	78.4323	12.8988	NREGS
379	30 sonneganipalle	Gundisettipalli	PT	78.4321	12.8929	NREGS
380	30 sonneganipalle	Gundisettipalli	PT	78.4327	12.8923	NREGS
381	30 sonneganipalle	Gundisettipalli	PT	78.4343	12.8935	NREGS
382	Chenguballa	Sogadeballa	PT	78.3791	12.9041	NREGS
383	Chenguballa	Sogadeballa	PT	78.3796	12.9066	NREGS
384	Chenguballa	Sogadeballa	PT	78.3817	12.9073	NREGS
385	Chinnaradoddi	Chinnaradoddi	PT	78.3595	12.8531	NREGS
386	Chinnaradoddi	Chinnaradoddi	PT	78.3534	12.8595	NREGS
387	Chinnaradoddi	Kondathimmanapalle	PT	78.3543	12.8626	NREGS
388	Chinnaradoddi	Kothapeta	PT	78.3590	12.8603	NREGS
389	Chinnaradoddi	Kothapeta	PT	78.3536	12.8697	NREGS
390	Chinnaradoddi	Kothapeta	PT	78.3580	12.8648	NREGS
391	Dandikuppam	Dandikuppam	PT	78.4352	12.8808	NREGS
392	Dandikuppam	Nimmanapalle	PT	78.4484	12.8644	NREGS
393	Dandikuppam	Nimmanapalle	PT	78.4503	12.8701	NREGS
394	Abakaladoddi	Abakaladoddi	PT	78.4002	12.8375	NREGS
395	Abakaladoddi	Abakaladoddi	PT	78.4018	12.8402	NREGS
396	Abakaladoddi	Abakaladoddi	PT	78.4032	12.8383	NREGS
397	Abakaladoddi	Jangalapalle	PT	78.3997	12.8544	NREGS
398	Abakaladoddi	Kakarlavanka	PT	78.3988	12.8425	NREGS
399	Abakaladoddi	Veduruguttapalle	PT	78.4026	12.8386	NREGS
400	Abakaladoddi	Veduruguttapalle	PT	78.4007	12.8413	NREGS
401	Abakaladoddi	Veduruguttapalle	PT	78.3963	12.8401	NREGS
402	Abakaladoddi	Veduruguttapalle	PT	78.3965	12.8413	NREGS
403	Abakaladoddi	Venkatesapuram	PT	78.3970	12.8383	NREGS
404	Gunjarlapalle	Chinthakampalle	PT	78.3602	12.8697	NREGS
405	Gunjarlapalle	Gunjarlapalle	PT	78.3824	12.8681	NREGS
406	Gunjarlapalle	Nakkanapalle	PT	78.3682	12.8669	NREGS
407	Gunjarlapalle	Thummisikothuru	PT	78.3830	12.8654	NREGS
408	Gunjarlapalle	Thummisikothuru	PT	78.3962	12.8620	NREGS
409	C.bandapalle	Chinnuru	PT	78.3309	12.8367	NREGS

410	64 pedduru	Gesikapalle	PT	78.3169	12.8550	NREGS
411	64 pedduru	Gesikapalle	PT	78.3164	12.8547	NREGS
412	64 pedduru	Somapuram	PT	78.3387	12.8245	NREGS
413	64 pedduru	Somapuram	PT	78.3324	12.8271	NREGS
414	64 pedduru	Somapuram	PT	78.3340	12.8253	NREGS
415	64 pedduru	Somapuram	PT	78.3422	12.8262	NREGS
416	Karlagatta	Karlagatta	PT	78.3605	12.8212	NREGS
417	Karlagatta	Preethichamanuru	PT	78.3543	12.8178	NREGS
418	Karlagatta	Preethichamanuru	PT	78.3567	12.8142	NREGS
419	Karlagatta	Preethichamanuru	PT	78.3560	12.8140	NREGS
420	Karlagatta	Preethichamanuru	PT	78.3578	12.8169	NREGS
421	Karlagatta	Preethichamanuru	PT	78.3548	12.8192	NREGS
422	Karlagatta	Preethichamanuru	PT	78.3553	12.8216	NREGS
423	Karlagatta	Venkatapuram	PT	78.3520	12.8220	NREGS
424	Rallaboduguru	Rallabaduguru	PT	78.3513	12.8418	NREGS
425	Rallaboduguru	Rallabaduguru	PT	78.3560	12.8418	NREGS
426	Rallaboduguru	Sathu	PT	78.3327	12.8757	NREGS
427	Rallaboduguru	Settigarikuraburu	PT	78.3551	12.8450	NREGS
428	Sivaramapuram	Gatturu	PT	78.4342	12.8249	NREGS
429	Sivaramapuram	Nanjampeta	PT	78.4338	12.8309	NREGS
430	Sivaramapuram	Nanjampeta	PT	78.4303	12.8262	NREGS
431	Sivaramapuram	Nanjampeta	PT	78.4304	12.8208	NREGS
432	Kanamakulapalle	Eddulapalle	PT	78.3833	12.8756	NREGS
433	Kanamakulapalle	Eddulapalle	PT	78.3807	12.8759	NREGS
434	Kanamakulapalle	Eddulapalle	PT	78.3835	12.8745	NREGS
435	Kanamakulapalle	Kenamakulapalle	PT	78.3918	12.8756	NREGS
436	Kanamakulapalle	Kenamakulapalle	PT	78.3904	12.8757	NREGS
437	Kanamakulapalle	Kenamakulapalle	PT	78.3885	12.8761	NREGS
438	Kanamakulapalle	Kenamakulapalle	PT	78.3900	12.8738	NREGS
439	Kanamakulapalle	Kenamakulapalle	PT	78.3893	12.8721	NREGS
440	Kanamakulapalle	Kenamakulapalle	PT	78.3919	12.8779	NREGS
441	Kanamakulapalle	Kenamakulapalle	PT	78.3838	12.8739	NREGS
442	Kanamakulapalle	Kenamakulapalle	PT	78.3846	12.8745	NREGS
443	Kolamadugu	Ramapuram	PT	78.4478	12.8457	NREGS
444	Kolamadugu	Ramapuram	PT	78.4485	12.8452	NREGS
445	Kolamadugu	Ramapuram	PT	78.4455	12.8453	NREGS
446	Kolamadugu	Ramapuram	PT	78.4491	12.8456	NREGS
447	Kolamadugu	Ramapuram	PT	78.4488	12.8446	NREGS
448	Kolamadugu	Ramapuram	PT	78.4506	12.8505	NREGS
449	Kolamadugu	Ramapuram	PT	78.4520	12.8512	NREGS
450	Kolamadugu	Ramapuram	PT	78.4510	12.8491	NREGS
451	Kolamadugu	Ramapuram	PT	78.4506	12.8473	NREGS
452	Kolamadugu	Ramapuram	PT	78.4502	12.8454	NREGS
453	Kolamadugu	Redlapalle	PT	78.4229	12.8530	NREGS
454	Kolamadugu	Redlapalle	PT	78.4153	12.8467	NREGS
455	Kolamadugu	Redlapalle	PT	78.4143	12.8472	NREGS

456	Kolamadugu	Redlapalle	PT	78.4142	12.8482	NREGS
457	Kolamadugu	Redlapalle	PT	78.4148	12.8483	NREGS
458	Kolamadugu	Redlapalle	PT	78.4114	12.8538	NREGS
459	Kolamadugu	Vetagirikothur	PT	78.4360	12.8578	NREGS
460	Kolamadugu	Vetagirikothur	PT	78.4366	12.8593	NREGS
461	Kolamadugu	Vetagirikothur	PT	78.4268	12.8482	NREGS
462	Kadapalle	Kadapalle	PT	78.3745	12.8115	NREGS
463	Kadapalle	Kadapalle	PT	78.3748	12.8130	NREGS
464	Kadapalle	Kadapalle	PT	78.3753	12.8129	NREGS
465	Kadapalle	Madanapalle	PT	78.3689	12.8171	NREGS
466	Kadapalle	Madanapalle	PT	78.3668	12.8149	NREGS
467	Kadapalle	Poduchenlu	PT	78.3872	12.8196	NREGS
468	Kadapalle	Poduchenlu	PT	78.3877	12.8204	NREGS
469	Kadapalle	Somarajapuram	PT	78.4053	12.8206	NREGS
470	Mattam	Matamsanthampalle	PT	78.4372	12.8865	NREGS
471	Mattam	Santhuru	PT	78.4465	12.8880	NREGS
472	Mattam	Santhuru	PT	78.4443	12.8903	NREGS
473	Mattam	Santhuru	PT	78.4559	12.8801	NREGS
474	Morasanipalle	Jalliganipalle	PT	78.3711	12.8416	IWMP
475	Morasanipalle	Jalliganipalle	PT	78.3704	12.8414	IWMP
476	Morasanipalle	Kalamaladoddi	PT	78.3860	12.8430	IWMP
477	Morasanipalle	Morasanapalle	PT	78.3806	12.8501	IWMP
478	Thummisi	Thulasinayanipalle	PT	78.3855	12.8489	IWMP
479	Thummisi	Thulasinayanipalle	PT	78.3895	12.8497	IWMP
480	Thummisi	Thulasinayanipalle	PT	78.3911	12.8489	IWMP
481	Gunjarlapalle	Chinthakampalle	PT	78.3602	12.8697	IWMP
482	Gunjarlapalle	Gunjarlapalle	PT	78.3824	12.8681	IWMP
483	Gunjarlapalle	Nakkanapalle	PT	78.3682	12.8669	IWMP
484	64 pedduru	Gesikapalle	PT	78.3169	12.8550	IWMP
485	64 pedduru	Gesikapalle	PT	78.3164	12.8547	IWMP
486	64 pedduru	Somapuram	PT	78.3387	12.8245	IWMP
487	64 pedduru	Somapuram	PT	78.3324	12.8271	IWMP
488	64 pedduru	Somapuram	PT	78.3340	12.8253	IWMP
489	64 pedduru	Somapuram	PT	78.3422	12.8262	IWMP
490	Karlagatta	Karlagatta	PT	78.3605	12.8212	IWMP
491	Karlagatta	Preethichamanuru	PT	78.3543	12.8178	IWMP
492	Karlagatta	Preethichamanuru	PT	78.3567	12.8142	IWMP
493	Karlagatta	Preethichamanuru	PT	78.3560	12.8140	IWMP
494	Karlagatta	Preethichamanuru	PT	78.3578	12.8169	IWMP
495	Karlagatta	Preethichamanuru	PT	78.3548	12.8192	IWMP
496	Karlagatta	Preethichamanuru	PT	78.3553	12.8216	IWMP
497	Karlagatta	Venkatapuram	PT	78.3520	12.8220	IWMP
498	Rallaboduguru	Rallabaduguru	PT	78.3513	12.8418	IWMP
499	Rallaboduguru	Rallabaduguru	PT	78.3560	12.8418	IWMP
500	Rallaboduguru	Settigarikuraburu	PT	78.3551	12.8450	IWMP
501	Kadapalle	Kadapalle	PT	78.3745	12.8115	IWMP

502	Kadapalle	Kadapalle	PT	78.3748	12.8130	IWMP
503	Kadapalle	Kadapalle	PT	78.3753	12.8129	IWMP
504	Kadapalle	Madanapalle	PT	78.3689	12.8171	IWMP
505	Kadapalle	Madanapalle	PT	78.3668	12.8149	IWMP
506	Kadapalle	Somarajapuram	PT	78.4053	12.8206	IWMP

PROPOSED ARTIFICIAL RECHARGE STRUCTURES
SANTHIPURAM MANDAL, CHITTOOR DISTRICT, AP.

S.No.	Mandal	Latitude	Longitude	Structure_Type
1	Shantipuram	12.8121	78.3709	Check Dam
2	Shantipuram	12.8588	78.3414	Check Dam
3	Shantipuram	12.8505	78.3741	Check Dam
4	Shantipuram	12.8293	78.3953	Check Dam
5	Shantipuram	12.8192	78.3618	Check Dam
6	Shantipuram	12.8086	78.3627	Check Dam
7	Shantipuram	12.8126	78.3810	Check Dam
8	Shantipuram	12.8133	78.3887	Check Dam
9	Shantipuram	12.8351	78.3675	Check Dam
10	Shantipuram	12.8277	78.3690	Check Dam
11	Shantipuram	12.8325	78.3053	Check Dam
12	Shantipuram	12.8193	78.3139	Check Dam
13	Shantipuram	12.8479	78.3017	Check Dam
14	Shantipuram	12.8554	78.3223	Check Dam
15	Shantipuram	12.8592	78.4077	Check Dam
16	Shantipuram	12.9121	78.3536	Check Dam
17	Shantipuram	12.9007	78.3528	Check Dam
18	Shantipuram	12.8983	78.3644	Check Dam
19	Shantipuram	12.8885	78.3550	Check Dam
20	Shantipuram	12.8908	78.3582	Check Dam
21	Shantipuram	12.8894	78.3510	Check Dam
22	Shantipuram	12.8802	78.3388	Check Dam
23	Shantipuram	12.8774	78.3366	Check Dam
24	Shantipuram	12.8860	78.3515	Check Dam
25	Shantipuram	12.8829	78.3619	Check Dam
26	Shantipuram	12.8843	78.3730	Check Dam
27	Shantipuram	12.8837	78.3815	Check Dam
28	Shantipuram	12.8963	78.4369	Check Dam
29	Shantipuram	12.8817	78.4028	Check Dam
30	Shantipuram	12.8739	78.3972	Check Dam
31	Shantipuram	12.8725	78.4038	Check Dam
32	Shantipuram	12.8714	78.4212	Check Dam
33	Shantipuram	12.8681	78.4251	Check Dam
34	Shantipuram	12.8584	78.4293	Check Dam
35	Shantipuram	12.8488	78.4431	Check Dam
36	Shantipuram	12.8752	78.4477	Check Dam
37	Shantipuram	12.8373	78.4308	Check Dam
38	Shantipuram	12.8158	78.4346	Check Dam
39	Shantipuram	12.8192	78.4362	Check Dam
40	Shantipuram	12.8120	78.4388	Check Dam
41	Shantipuram	12.8289	78.4457	Check Dam
42	Shantipuram	12.8914	78.3767	Percolation Tank
43	Shantipuram	12.8846	78.3915	Percolation Tank

44	Shantipuram	12.8584	78.3350	Percolation Tank
45	Shantipuram	12.8362	78.3930	Percolation Tank
46	Shantipuram	12.8253	78.3594	Percolation Tank
47	Shantipuram	12.8168	78.3332	Percolation Tank
48	Shantipuram	12.8311	78.3249	Percolation Tank
49	Shantipuram	12.8624	78.3982	Percolation Tank
50	Shantipuram	12.8602	78.3503	Percolation Tank
51	Shantipuram	12.8751	78.4114	Percolation Tank
52	Shantipuram	12.8730	78.4342	Percolation Tank
53	Shantipuram	12.8541	78.4494	Percolation Tank
54	Shantipuram	12.8057	78.4391	Percolation Tank
55	Shantipuram	12.8433	78.3086	Percolation Tank
56	Shantipuram	12.8740	78.3270	Percolation Tank

Fig.1

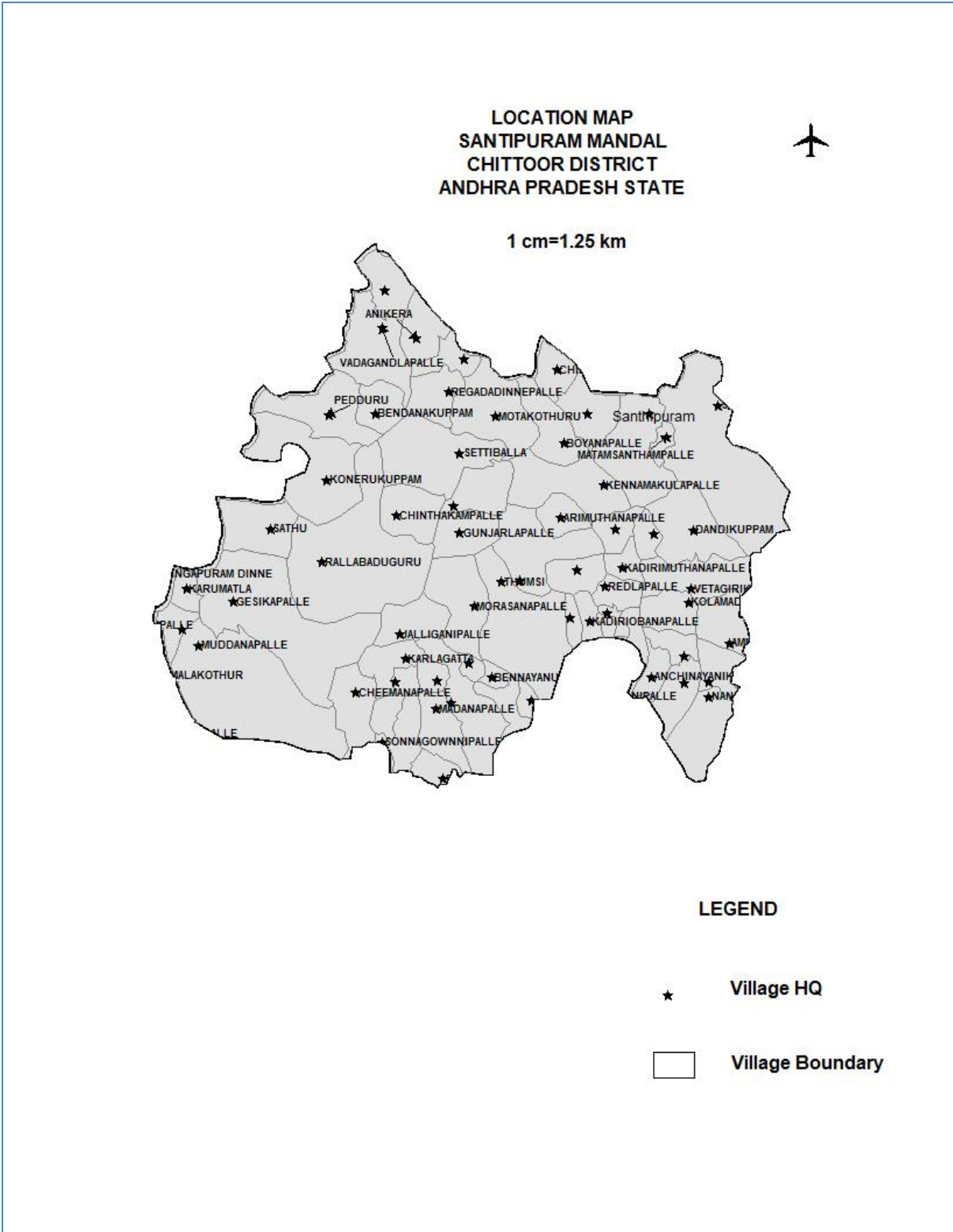


Fig.2

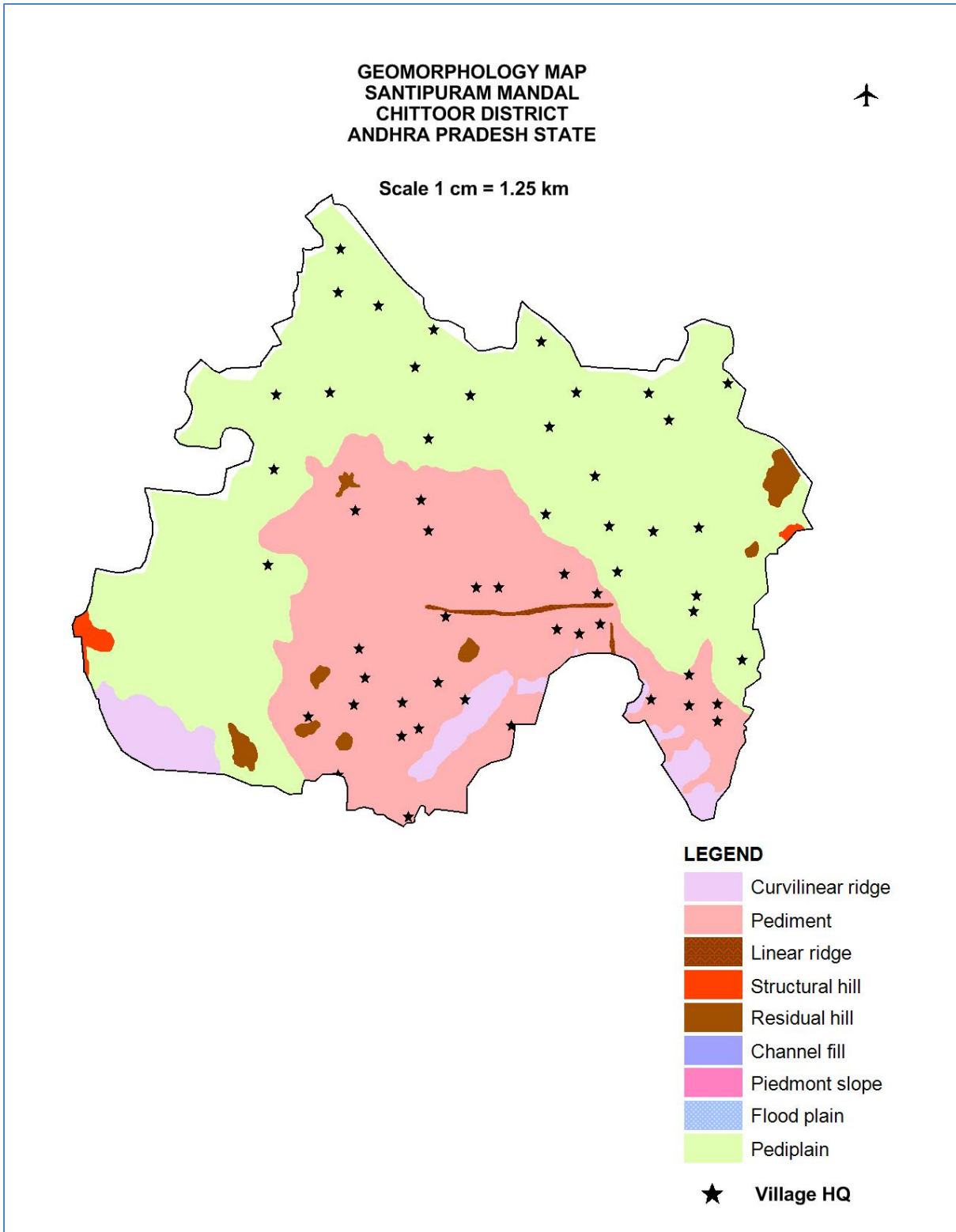


Fig.3

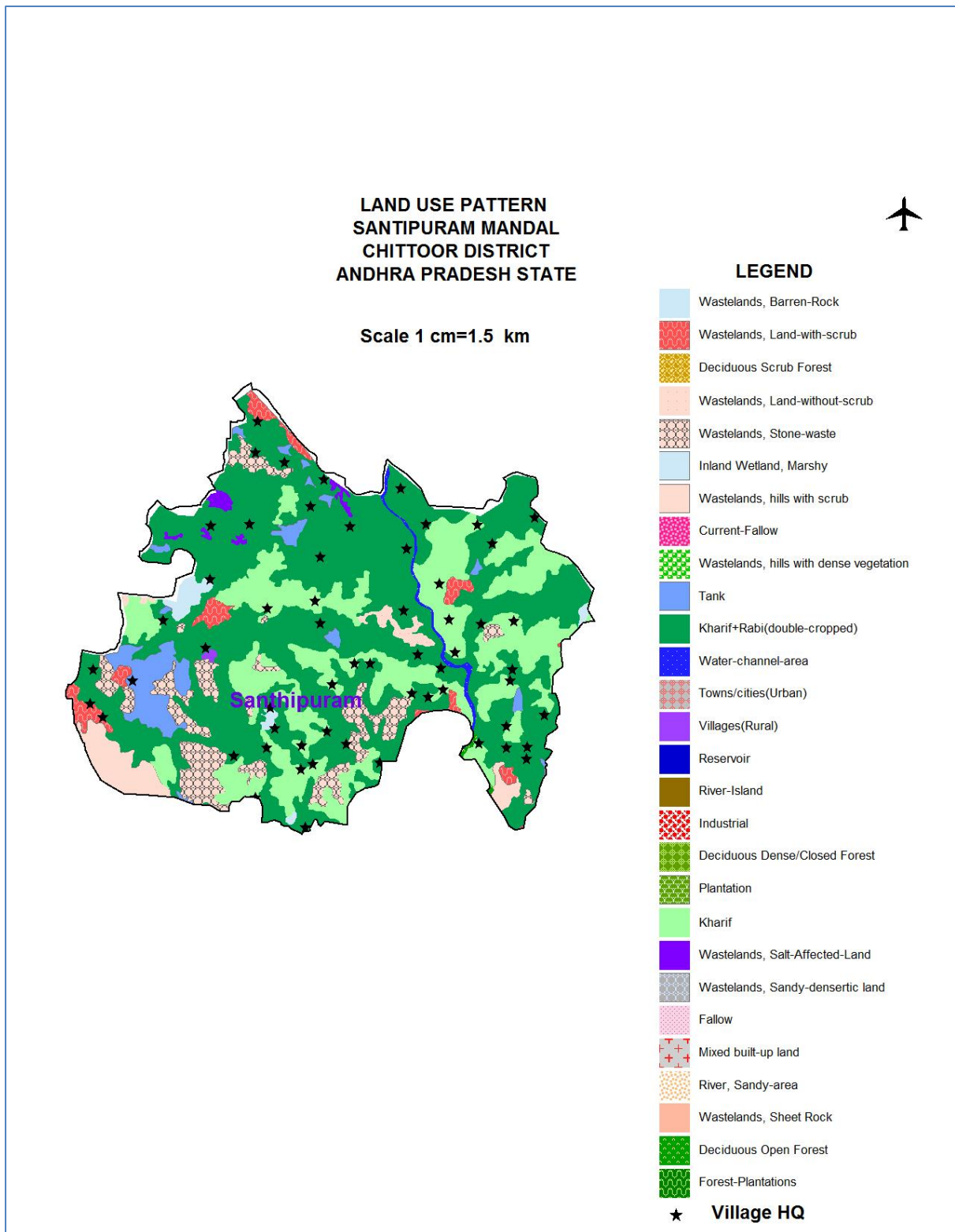


Fig.4

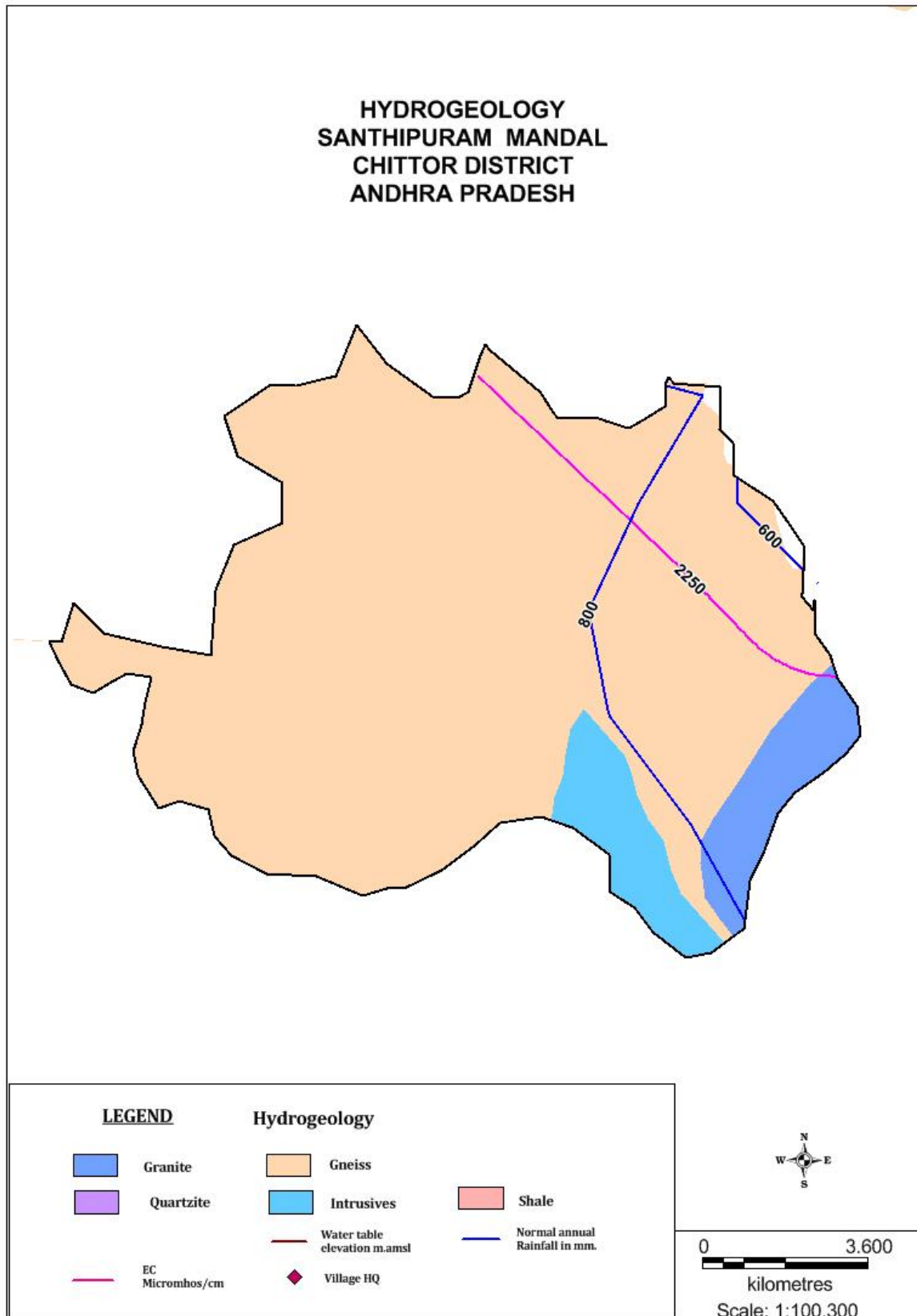
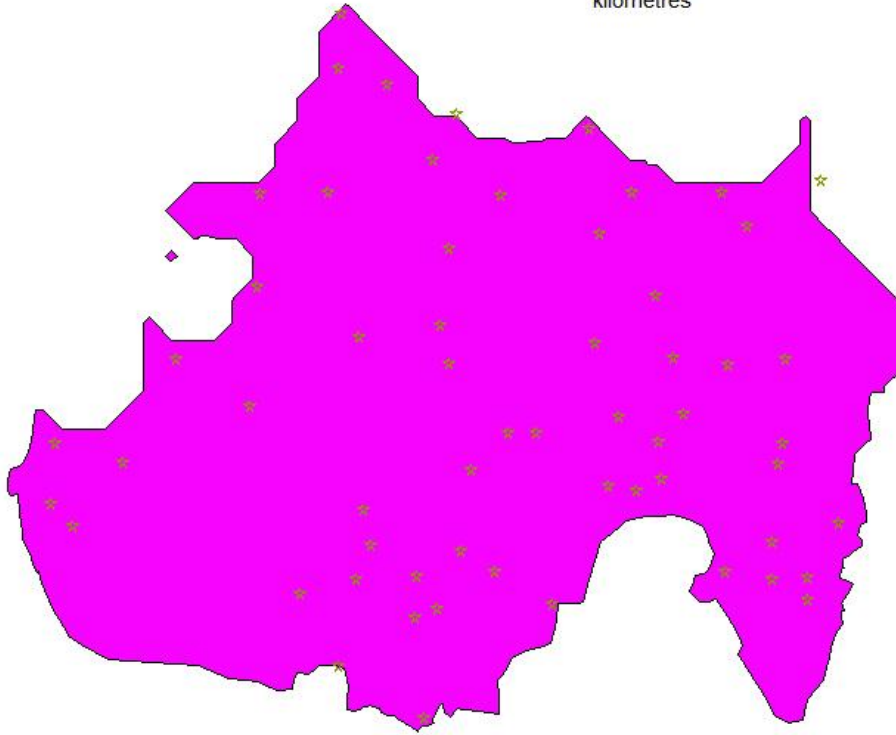


Fig.5

**DEPTH TO WATER LEVEL
PRE-MONSOON
SANTIPURAM MANDAL
CHITTOOR DISTRICT
ANDHRA PRADESH STATE**

0 1 2
kilometres



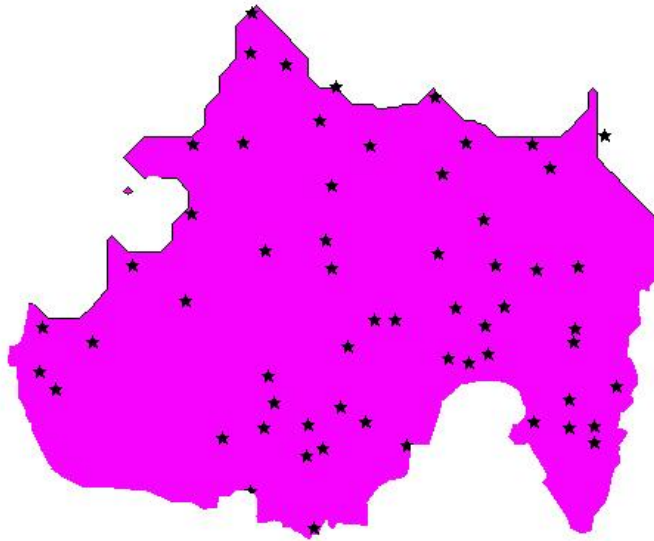
LEGEND (DTWL)

- 10 - 20 m bgl
- village HQ

Fig.6

DEPTH TO WATER LEVEL
NOVEMBER 2014
SANTIPURAM MANDAL
CHITTOOR DISTRICT
ANDHRA PRADESH STATE

1 cm=1.5 km



LEGEND

-  10 - 20 m bgl
-  Village HQ

Fig.7

Post Monsoon Water Level and Trend (Decadal Mean) along with Existing and Proposed Artificial Recharge Structures in Shantipuram Mandal, Chittoor District, Andhra Pradesh

