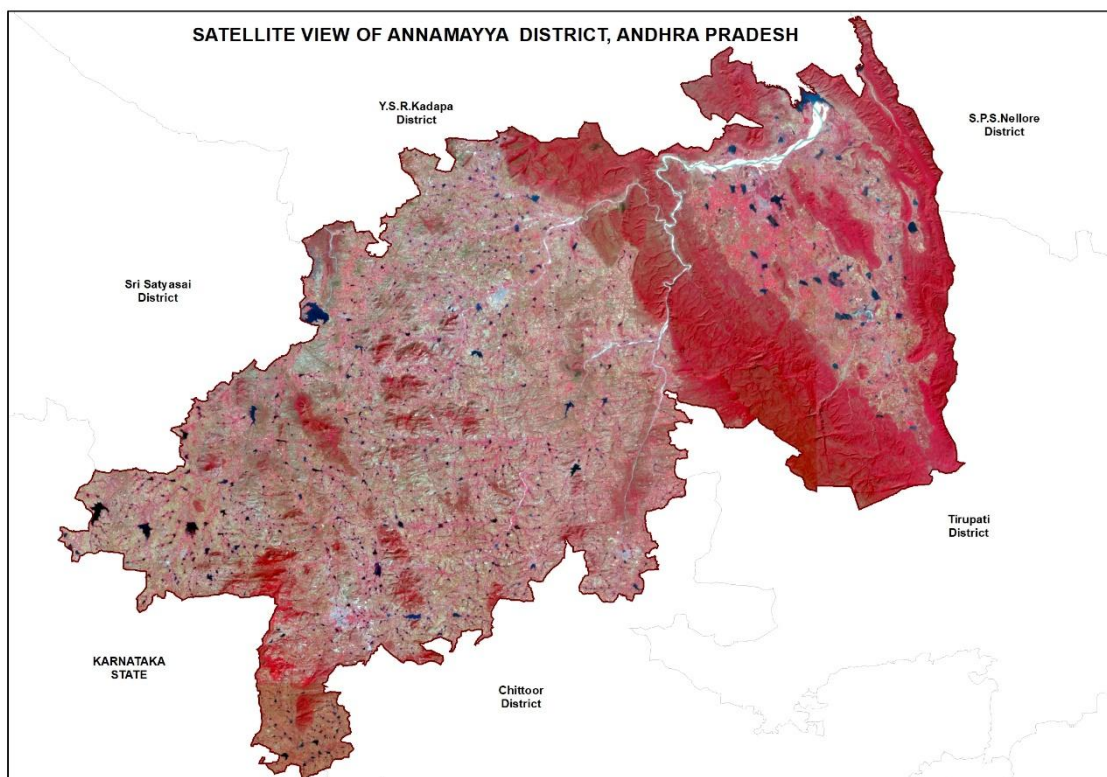


DISTRICT SURVEY REPORT FOR SAND AND OTHER MINOR MINERALS ANNAMAYYA DISTRICT

(FOR THE DEPARTMENT OF MINES AND GEOLOGY, GOVT. OF AP)

As per Notification No. S.O. 141 (E), 15.01.2016, S.O. 3611(E), 25.07.2018, and Enforcement and Monitoring Guidelines for Sand Mining 2020 of MOEF and CC, GoI



Prepared by



**ANDHRA PRADESH SPACE APPLICATIONS CENTRE (APSAC)
ITE and C Department, Govt. of Andhra Pradesh**

Submitted to



**DEPARTMENT OF MINES AND GEOLOGY
Government of Andhra Pradesh**

December 2023

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PREFACE

The Natural resource inventory is the assessment of the status of a given natural resource of an area at a given point in time. Population pressure results in over- exploitation of resources. The baseline information on the resources would help the administration for better planning and decision making. The main purpose of the report is to disseminate data on the natural resource up to the lowest administrative functionary to facilitate micro level planning and development. The efforts have been made to assess and document the information on land use/land cover, crop, surface water resource, soils, slope, groundwater prospects, groundwater quality, geological information, and minerals resources in Annamaaya district, Andhra Pradesh, based on the satellite remote sensing data and socioeconomic information.

The Department of Mines and Geology (DMG), Government of Andhra Pradesh (AP) requested the Andhra Pradesh Space Applications Center (APSAC) to update the district survey reports with availability of sand mineral information, major and minor mineral details, and river morphology for all the districts in the State. The District Survey report emphasizes and updated the major and minor minerals in the districts of AP. The District Survey reports are updated following the "Sustainable Sand Mining guidelines" issued in 2016 and 2020 and SO 741 of 2016 of the Ministry of Environment, Forests and Climate Change provided by the DMG. The comments received from the public, if found fit, shall be incorporated in the report. A list of leases in the district will be provided by the concerned Assistant Directors of Mines and Geology.

The report is an outcome of the efforts of the Scientists and Project Associates at APSAC. I heartily congratulate the team for compiling the report.

(Dr.Sundar Balakrishna, IFS)
Vice-Chairman
APSAC

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Our sincere gratitude to **Sri Kona Sasidhar, IAS, Secretary to Government**, Information Technology, Electronics and Communications (ITE&C), Govt. of Andhra Pradesh and the **Chairman**, APSAC Governing Body, for his constant encouragement.

We would like to express our sincere gratitude to **Dr. Sundar Balakrishna, IFS, Special Secretary to Government**, Information Technology, Electronics and Communications (ITE&C), Govt. of Andhra Pradesh and the **Vice-Chairman, APSAC** Govt. of Andhra Pradesh, for his meticulous guidance and supervision.

We are grateful to the **Sri. V.G. Venkata Reddy, Director**, Department of Mines and Geology, Govt. of Andhra Pradesh for entrusting the work for the preparation of District Survey Reports of Andhra Pradesh.

We owe a great deal to **Sri. P Raja Babu, Joint Director**, Department of Mines and Geology for his overall support and guidance during the execution of this work.

We are very much thankful to **Dr.M.J.Ratnakanth Babu, Royalty Inspector (Head Office)**, Mines and Geology for his support to complete the work successfully.

c

We are also thankful to the **District Mines and Geology Officer**, Annamayya District for their support in providing information

Our sincere thanks are due to the scientific staff of APSAC who has generated all the thematic maps for District Survey Reports.

APSAC

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List of Abbreviations

APSAC	: Andhra Pradesh Space Applications Centre
APMMC	: Andhra Pradesh Minor Mineral Concession
AMSL	: Above Mean Sea Level
AWiFS	: Advanced Wide Field Sensor
APWALTA	: Andhra Pradesh State Water, Land and Trees Authority
APMDC	: Andhra Pradesh Mineral Development Corporation
Bgl	: Below ground level
BT Road	: Bituminous Road
Cl	: Chlorine
CC Road	: Cement concrete
CRZ	: Coastal Regulatory Zone
CPSU	: Central Public Sector Undertaking
CGWB	: Central Ground Water Board
cu.m/day	: Cubic meter per day
DSR	: District Survey Report
DMG	: Directorate of Mines and Geology
DM&GO	: District Mines and Geology Officer
DMF	: District Mineral Fund
DES	: Directorate of Economics and Statistics
DEM	: Digital Elevation Model
dS/m	: Decisiemens per meter
EIA/EMP	: Environmental Impact Assessment
F	: Fluorine
FAC	: Full Additional Charge
FASAL	: Forecasting Agricultural output using Space, Agrometeorology and Land-based observations
Fe	: Iron
Ft	: feet
GD	: Geosciences Division
GIS	: Geographical Information System
GSI	: Geological Survey of India
Ha	: Hactar
Km	: Kilometer
IRS	: Indian Remote Sensing Satellite
ITE and C	: Information Technology Electronics and Communications
LISS	: Linear Imaging Self Scanning
LULC	: Land Use / Land Cover

Lps	: Litres per second
M	: meter
Mi	: mile
mm	: millimetre
MT	: Million Tonne
MERIT	: Mineral Exploration Research Innovation Trust Fund
MoEF	: Ministry of Environment and Forests
MSL	: Mean Sea Level
NIRD	: National Institute of Rural Development
NH	: National Highway
NaNO ₃	: Sodium nitrate
NRSA	: National Remote Sensing Agency
NRSC	: National Remote Sensing Centre
PESA	: Panchayats Extension to Scheduled Areas
pH	: Power of hydrogen
PSD	: Performance Security Deposit
PSU	: Public sector Undertakings
R2	: ResourceSat-2
RGNDWM	: Rajiv Gandhi National Drinking Water Mission
RWS and S	: Rural Water Supply and Sanitation
SAR	: Synthetic Aperture Radar
SEB	: Special Enforcement Bureau
SO ₄	: Sulfate
Sq.Km	: Square Kilometre
Sq.m	: Square metre
TA	: Tantalum
TIN	: Triangular Irregular Network
TGA	: Total Geographical Area
TIS	: Tank Information System
TTD	: Tirumala Tirupati Devasthanams
WBM	: Water Bound Macadam

Chapter I – Introduction & General Profile

1.1 Administrative Setup

Annamayya district is one of the eight districts of Rayalaseema region established on 4th April 2022 with its district administrative headquarters as Rayachoti.

Geographically, Annamayya district is bounded north by Y.S.R. Kadapa district, south by Chikballapur district and Kolar district of Karnataka State and Chittoor district, on the west by Sri Sathya Sai and on the east by S.P.S. Nellore and Tirupati districts. The total geographical area of the district is 7,954 Sq.km. It is covered with 3 Revenue divisions namely Madanapalle, Rajampet and Rayachoti and comprising of 30 Revenue mandals and 471 Revenue villages. Penagalur mandal is having maximum number of villages (28) and Kurabalakota mandal is having minimum number of villages (8). Out of 30 mandals of the district, the maximum area (1030.91 sq.km) is occupied by Obulavaripalle mandal and minimum area in Kalikiri mandal (166.89 sq.km).

The mandals covered in each Revenue division are shown in Table-1 and its spatial distribution is shown in Figure-1. The satellite view of the district is also depicted transport in Figure-2.

Table 1 List of mandals covered in each Revenue division

Madanapalle Division	Rajampet Division	Rayachoti Division
B.Kothakota	Chitvel	Chinnamandem
Kalikiri	Kodur	Galiveedu
Kurabalakota	Nandalur	Gurramkonda
Madanapalle	Obulavaripalle	Kalakada
Mulakalacheruvu	Penagalur	Kambhamvaripalle
Nimmanapalle	Pullampeta	Lakkireddipalle
Pedda Thippasamudram	Rajampet	Pileru
Peddamandyam	T Sundupalle	Ramapuram
Ramasamudram	Veeraballe	Rayachoti
Thamballapalle		Sambepalle
Vayalpad		

Data Source: APSAC, Vijayawada.

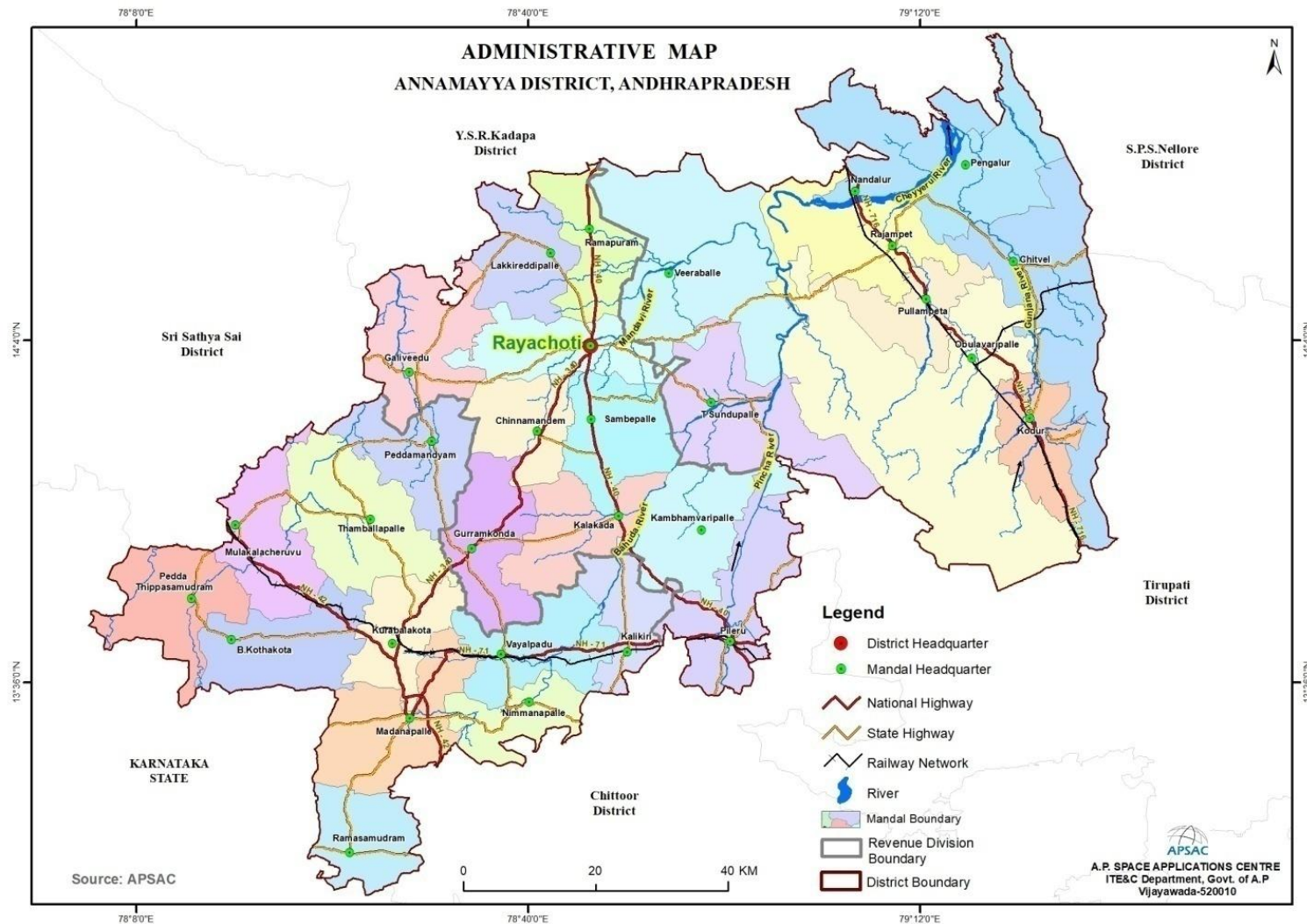


Figure-1: Administrative Map of Annamayya District, Andhra Pradesh

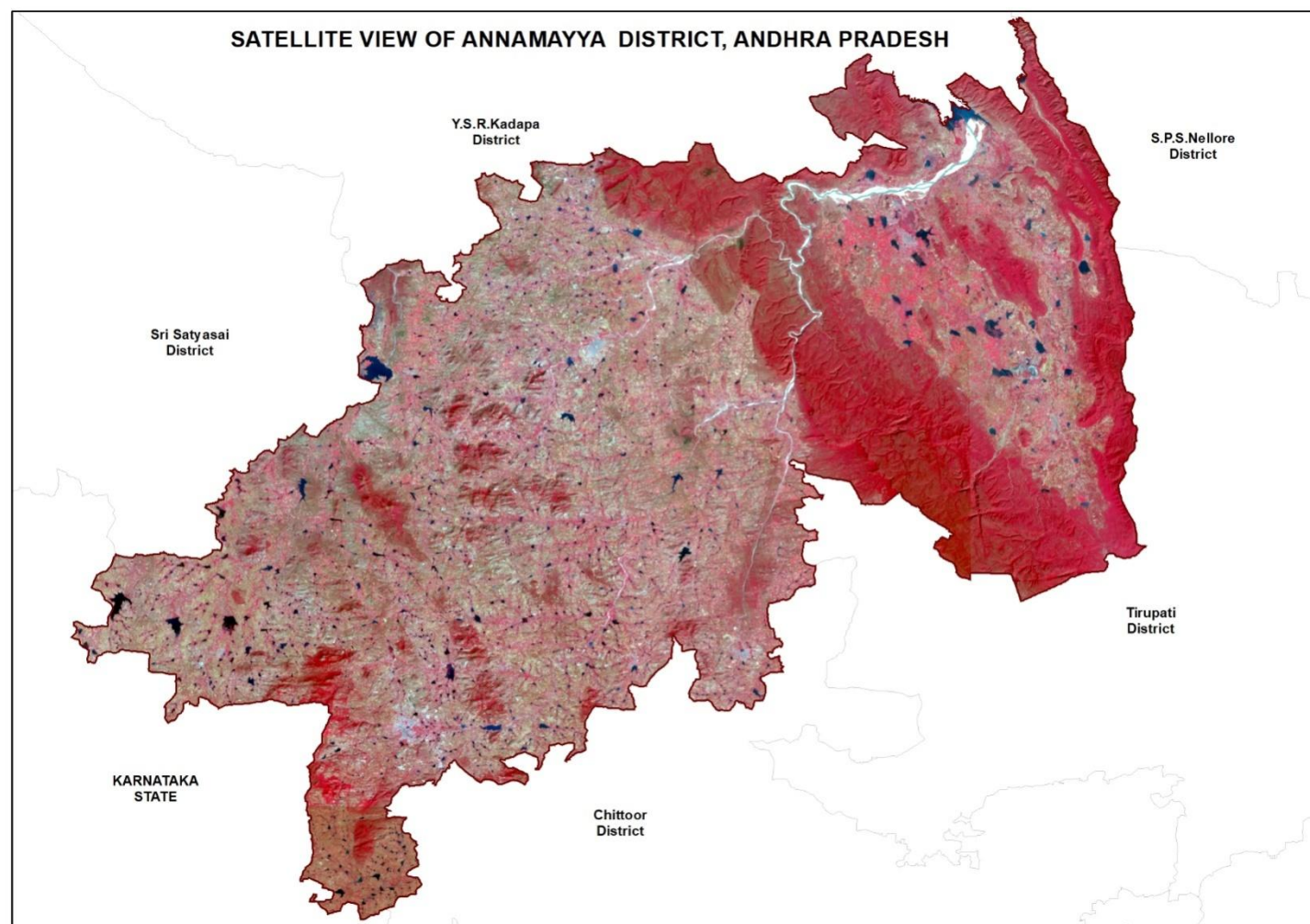


Figure-2: Satellite View of Annamayya District

1.2 Physiography

1.2.1 Physiography

Physiographically, Annamayya District is a major pediplain. The district is mostly in all the sides are mostly covered by structural hills and valleys with dyke ridges. In the eastern part it is dominated by cuesta.

1.2.2 Relief

The slope distribution clearly shows that the district terrain is rugged hilly terrain, and the slope varies from nearly level to very steep slopes (Figure 3). The nearly level-sloping areas are found in the eastern parts of the district along with very gently sloping areas. It is found in the areas of Penagluru, Nandaluru. Rajampet, etc., and 7.54% of the land is under nearly level slopes. The very gently sloping area ranging from 1-3% occupied 29% of the district's geographical area. Most of the district's land is gently sloping and is distributed along scrubs and forests, accounting for 29.40% of the district's land. The uplands and foothills have moderately to strongly sloping terrain. The slopes ranging from 5-10% and 10-15% contributed 11.05% and 11.16%, respectively. Moderately steep to steep sloping and very steep slopes are observed at the peak of the hills and are concentrated more in the east and central parts of the district.

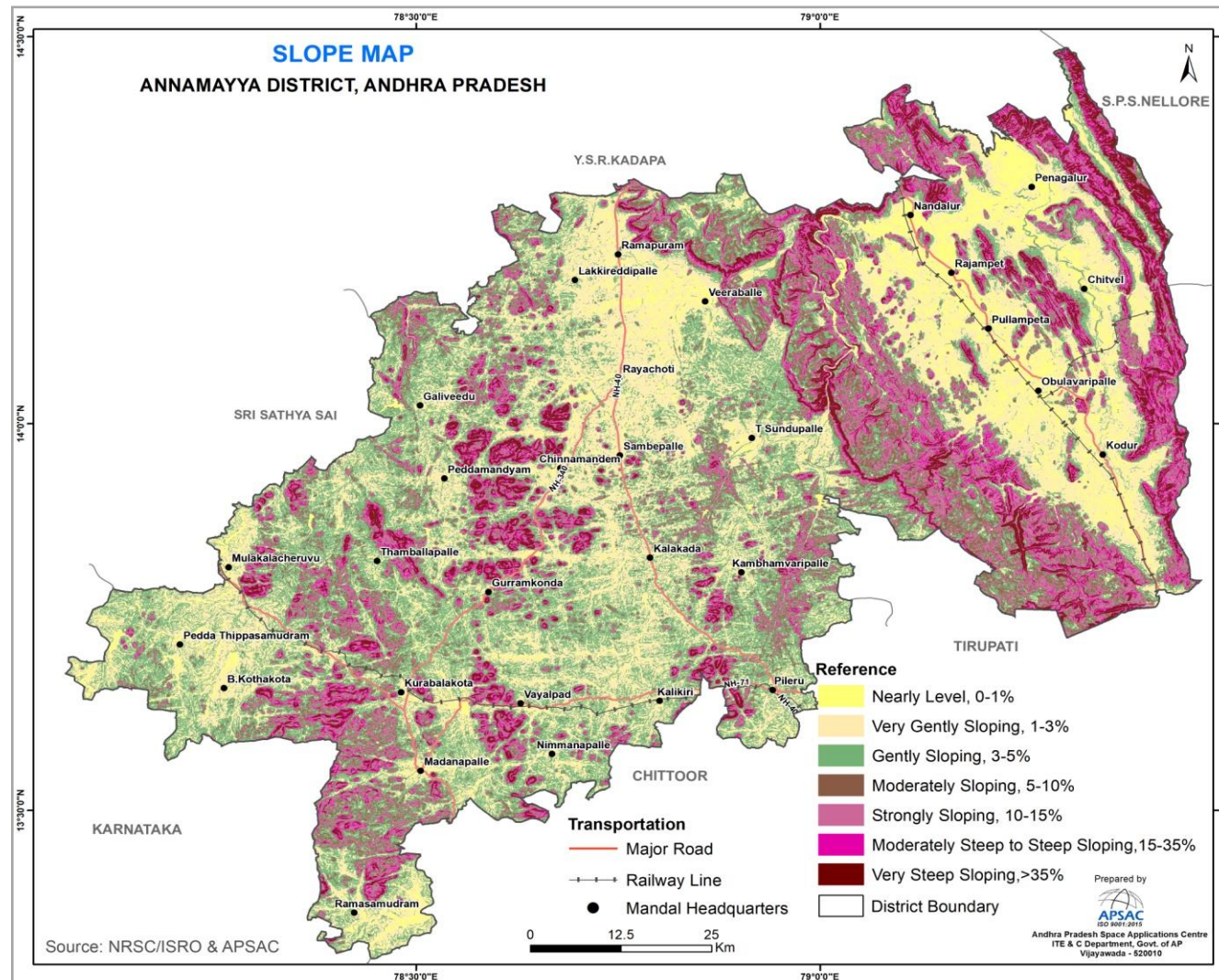


Figure-3: Slope Map of Annamayya District

1.2.3 Climate & Rainfall

1.2.3.1. Climate:

The climate of the district is dry. The south mandals are comparatively cooler than the north mandals. Horsely Hills is a summer resort located near the town of Madanapalle. It is known as the "Andhra Ooty". The area of Annamayya is for the upper part viewed as an upsettingly hot place is presumably because of the early setting in of high temperatures. The Rayachoti, Rajampet and Kodur have a tropical wet and dry climate characterised by year round high temperatures. It has a record of reaching more than 50 degree Celsius. Summers are especially uncomfortable with hot and humid climate. During this time temperatures range from a minimum of 34°C and can rise up to a maximum of 40°C.

It ought to be said that Rayachoti taluk, the greater part of which lies at around 1000 feet higher than Annamayya appreciates a temperature somewhere in the range of five degree cooler than that of the nation. The quickest advances are from February to March when the air turns out to be extremely dry as the sweltering climate sets in, and from May to June when dampness is again raised by the south-west storm. It is amid the south-west storm that breezes achieve their most noteworthy speed. However, in August and September when the precipitation is the most successive, the general heading of the breeze is from the north-west. It veers to north-east amid October when the second storm is built up and goes on for around two months. The normal breeze course in December is south-east and it stays in this quarter till the later piece of the sweltering climate, when it again takes after from the west or north-west. The mean minimum and maximum temperatures recorded in the district are 19°C in January and 40°C in May, respectively. The locations of Automatic Weather Stations (AWS) in Annamayya district are shown in Figure- 4.

1.2.3.1. Rainfall:

The average annual rainfall of the district is 743.13 mm, of which 373.41 mm falls as South-West (June-September) monsoon and 285.2 mm as North-East (October-December) monsoon. The mean minimum and maximum temperatures recorded in the district are 19°C in January and 40°C in May, respectively. The average rainfall for the last 25 years is used for the analysis. The average annual rainfall is shown in Figure- 5 and details are given in Table-2.

Table 2 Average Annual Rainfall (mm) in the district, during the year 1998-2021

S.No	Month	Average Annual Rainfall (mm)
1	January	3.66
2	February	5.73
3	March	9.59
4	April	18.35
5	May	47.38
6	June	68.48
7	July	86.10
8	August	98.53
9	September	120.30
10	October	134.47
11	November	112.35
12	December	38.20
Total		743.13

Data source: AWS & APSDPS, Vijayawada

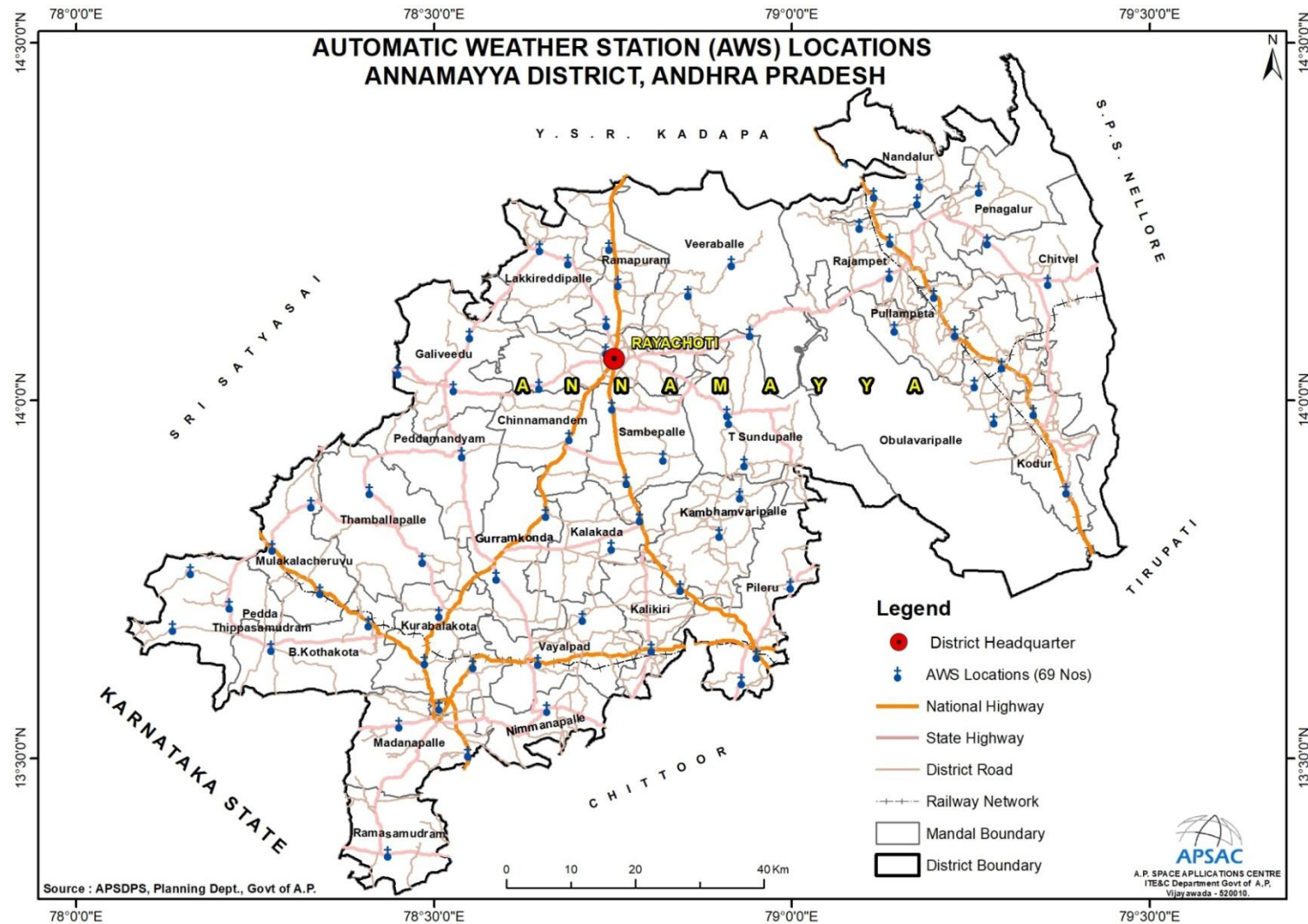


Figure-4: Locations of Automatic Weather Stations (AWS) in Annamayya District

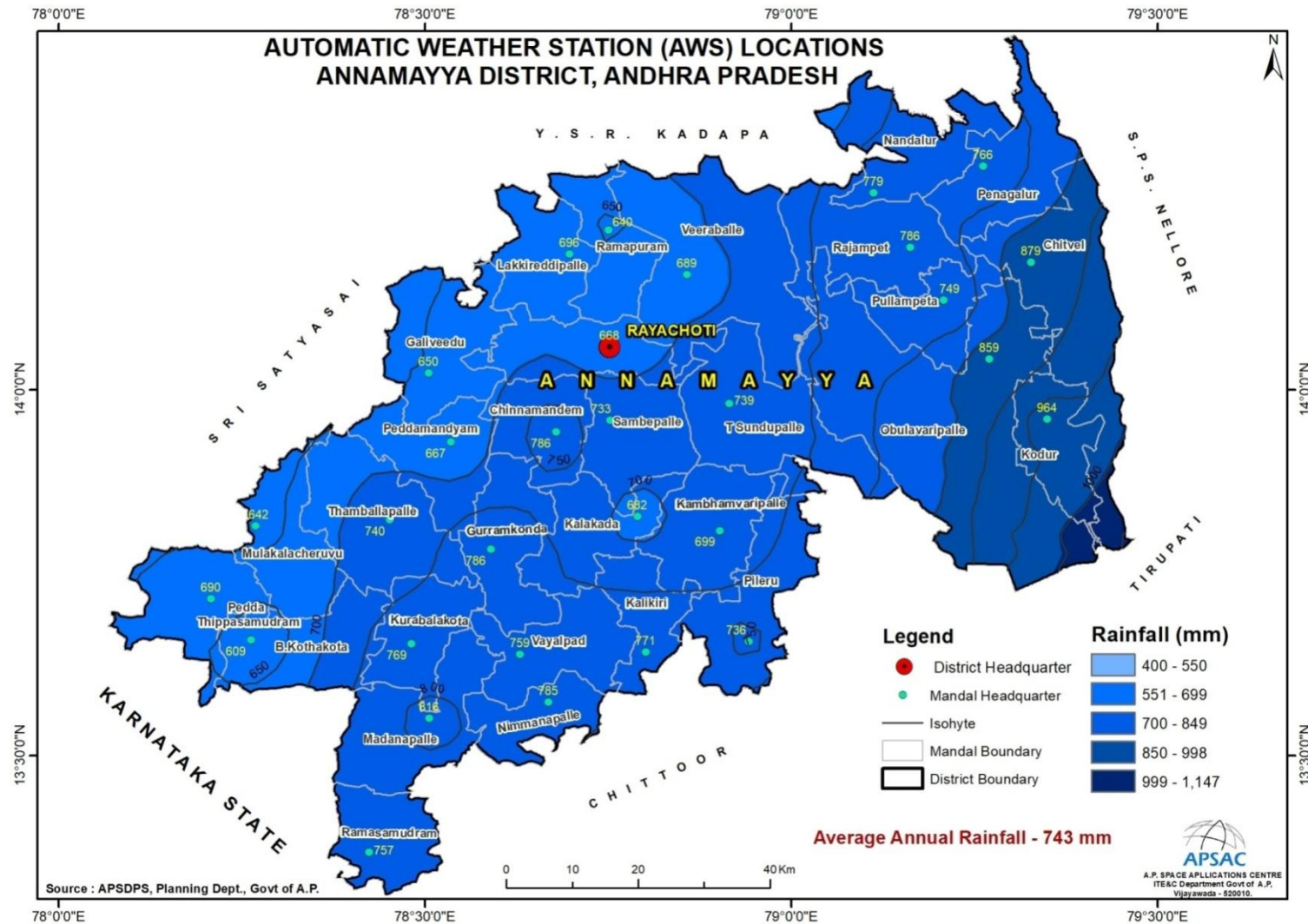


Figure-5: Rainfall distribution in Annamayya District

1.2.4 Drainage

The important river in the district is Pennar River and covered with 96% of the total area. The remaining part of the district partially covered with Swarnamukhi and Palar rivers. The Pennar river flows towards north direction and the major tributaries are Cheyyeru, Papagni, Bahuda, Pincha and Pedderu rivers in the district.

1.3 Population and Literacy

1.3.1. Population:

The total population of the district is 16,97,308 (as per the 2011 census); of which male and female are 8,53,247 and 8,44,061 respectively. Among all the mandals, Madanapalle Mandal is having maximum population of 2,33,182; whereas Nimmanapalle Mandal is having minimum population of 32,890.

The total schedule caste- (SC) population in the district is 2,29,601; of which male and female are 1,14,104 and 1,15,497 respectively. The schedule tribe (ST) population is 62,475; of which male and female are 31,268 and 31,207 respectively. The mandal wise population is shown in Table-3 and its spatial distribution is depicted in Figure-6.

1.3.2. Literacy:

The total literacy in the district is 10,02,830; of which male and female are 5,76,968 and 4,25,862 respectively. The total illiterates are 6,94,478; of which male and female are 2,76,279 and 4,18,199 respectively. The mandal wise Literacy Statistics summary is shown in Table-4.

1.3.3. Details of the Occupational Health issues in the District (Last five-year data of number of patients of Silicosis): No cases were reported during last 5 years due to mining activity.

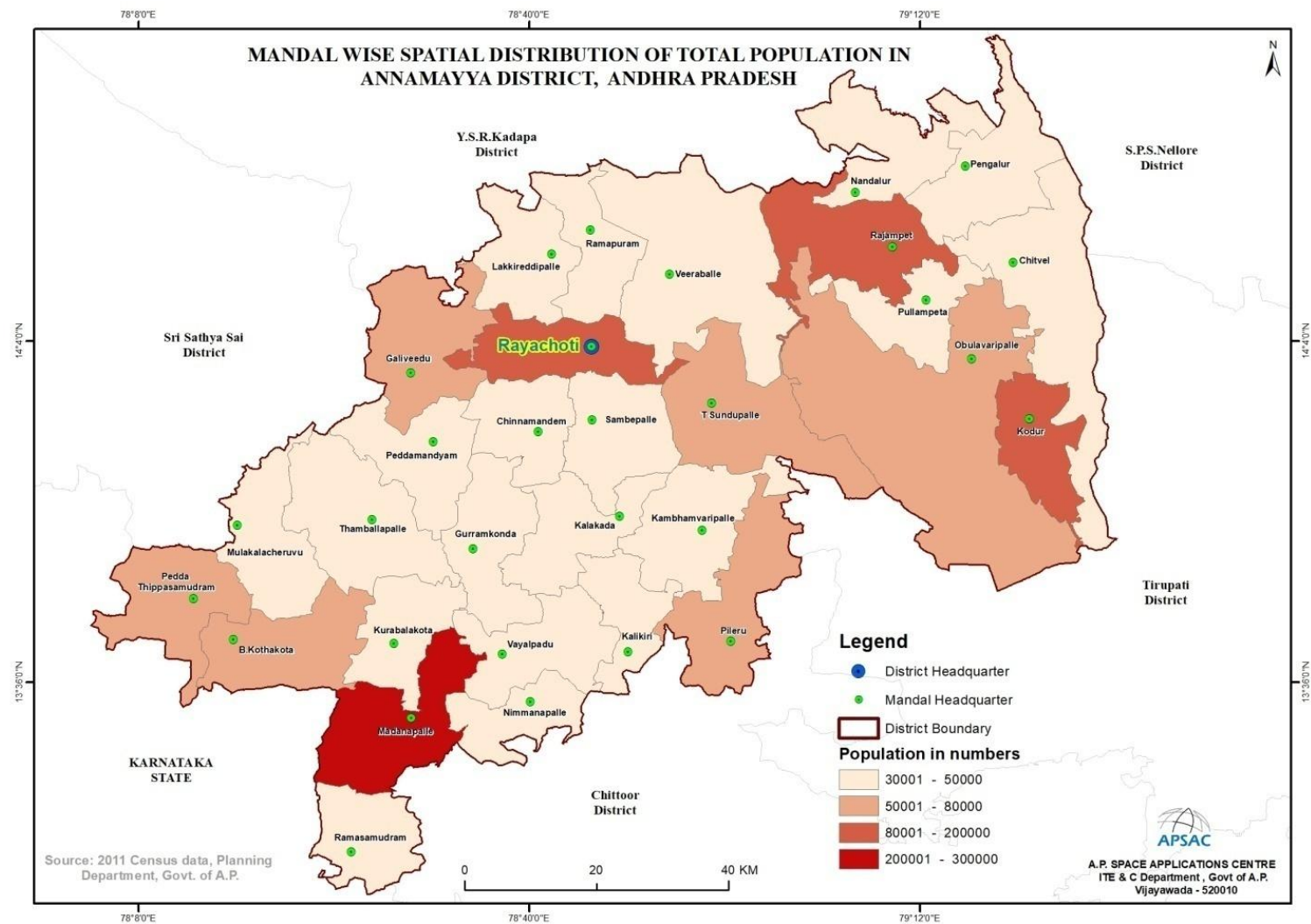


Figure-6: Mandal wise Spatial Distribution of Population in Annamayya District, Andhra Pradesh

Table 3 Mandal wise Population Statistics

S.No	Mandal Name	Total House Holds	Total Population	Total Male Population	Total Female Population	Total SC Population	Male SC Population	Female SC Population	Total ST Population	Male ST Population	Female ST Population
1	B.Kothakota	14568	59465	30299	29166	6882	3665	3217	1664	843	821
2	Chinnamandem	8550	34515	17324	17191	3711	1896	1815	370	196	174
3	Chitvel	10764	42104	21070	21034	8419	4261	4158	3156	1620	1536
4	Galiveedu	13275	50833	25557	25276	4297	2178	2119	2533	1291	1242
5	Gurramkonda	10885	42772	21710	21062	4012	1961	2051	574	270	304
6	Kalakada	9125	34326	17182	17144	3806	1882	1924	1356	667	689
7	Kalikiri	12661	48729	24151	24578	6361	3099	3262	684	336	348
8	Kambhamvaripalle	11081	42351	21524	20827	5673	2900	2773	2536	1307	1229
9	Kodur	22031	90814	45668	45146	17699	8770	8929	8562	4363	4199
10	Kurabalakota	10237	41235	20668	20567	3351	1661	1690	730	336	394
11	Lakkireddipalle	9000	35246	17758	17488	4218	2045	2173	343	143	200
12	Madanapalle	57057	233182	117320	115862	21217	10425	10792	7651	3742	3909
13	Mulakalacheruvu	11537	45556	22600	22956	6412	3009	3403	1075	508	567
14	Nandalur	9545	39902	19636	20266	7955	3781	4174	1288	622	666
15	Nimmanapalle	8369	32890	16220	16670	5814	2836	2978	392	187	205
16	Obulavaripalle	12299	53275	27266	26009	11810	6138	5672	2171	1117	1054
17	Pedda Thippasamudram	12788	53079	27181	25898	8724	4365	4359	657	336	321
18	Peddamandam	9121	34502	17278	17224	2424	1207	1217	3291	1605	1686
19	Penagalur	10232	42360	21406	20954	10302	5217	5085	1856	937	919
20	Pileru	18958	73016	36281	36735	7886	3602	4284	3139	1534	1605
21	Pullampeta	9400	39434	19592	19842	8944	4431	4513	808	427	381
22	Rajampet	24613	103871	51996	51875	16894	8395	8499	3133	1571	1562
23	Ramapuram	8864	35220	18031	17189	5880	3189	2691	1110	564	546
24	Ramasamudram	11339	49202	24628	24574	8477	4162	4315	360	171	189
25	Rayachoti	28751	124565	63359	61206	8335	4080	4255	2044	1012	1032
26	Sambepalle	9291	37006	18330	18676	5690	2704	2986	1991	979	1012
27	T Sundupalle	14127	57140	28880	28260	6890	3477	3413	4586	2380	2206
28	Thamballapalle	10343	39914	19850	20064	2908	1454	1454	2823	1385	1438
29	Vayalpad	11755	45274	22445	22829	7720	3870	3850	651	339	312
30	Veeraballe	9006	35530	18037	17493	6890	3444	3446	941	480	461
	Grand Total	419572	1697308	853247	844061	229601	114104	115497	62475	31268	31207

Data Source: 2011 Census data, Planning Department & DES.

Table 4 Mandal wise Literacy statistics

S.No	Mandal Name	Total Literacy	Male Literacy	Female Literacy	Total Illiterates	Male Illiterates	Female Illiterates
1	B.Kothakota	34166	20092	14074	25299	10207	15092
2	Chinnamandem	19049	11304	7745	15466	6020	9446
3	Chitvel	21644	12622	9022	20460	8448	12012
4	Galiveedu	26490	16101	10389	24343	9456	14887
5	Gurramkonda	25712	14924	10788	17060	6786	10274
6	Kalakada	19640	11294	8346	14686	5888	8798
7	Kalikiri	29260	16592	12668	19469	7559	11910
8	Kambhamvaripalle	22710	13806	8904	19641	7718	11923
9	Kodur	52575	30003	22572	38239	15665	22574
10	Kurabalakota	24543	14300	10243	16692	6368	10324
11	Lakkireddipalle	18528	11164	7364	16718	6594	10124
12	Madanapalle	157558	86420	71138	75624	30900	44724
13	Mulakalacheruvu	25364	14636	10728	20192	7964	12228
14	Nandalur	24414	13519	10895	15488	6117	9371
15	Nimmanapalle	18819	10711	8108	14071	5509	8562
16	Obulavaripalle	29450	17490	11960	23825	9776	14049
17	Pedda Thippasamudram	30656	18196	12460	22423	8985	13438
18	Peddamandyam	17387	10412	6975	17115	6866	10249
19	Penagalur	23336	13799	9537	19024	7607	11417
20	Pileru	50570	27523	23047	22446	8758	13688
21	Pullampeta	22179	12711	9468	17255	6881	10374
22	Rajampet	64623	36361	28262	39248	15635	23613
23	Ramapuram	18725	11550	7175	16495	6481	10014
24	Ramasamudram	27472	15976	11496	21730	8652	13078
25	Rayachoti	76388	43949	32439	48177	19410	28767
26	Sambepalle	18666	11168	7498	18340	7162	11178
27	T Sundupalle	32123	19082	13041	25017	9798	15219
28	Thamballapalle	22613	13336	9277	17301	6514	10787
29	Vayalpad	29179	16155	13024	16095	6290	9805
30	Veeraballe	18991	11772	7219	16539	6265	10274
	Grand Total	1002830	576968	425862	694478	276279	418199

Data Source: 2011 Census data, Planning Department & DES

1.4 Land Utilization Pattern

1.4.1 Land Use / Land Cover

The Land Use / Land Cover (LULC) pattern of any region is an outcome of various physical and cultural factors and their utilization by man in time and space. Land use refers to the type of utilization to which man has put the land. It also refers to the evaluation of the land with respect to various natural characteristics. But land cover describes the vegetal attributes of the land. For the proper understanding of the influence of the various human-induced land-use practices on environmental change, it is essential to help simulate the land-use changes.

1.4.2 Spatial Distribution of Land Use / Land Cover

The major common land use categories such as built-up (162.81 sq. km), agriculture (3730.73sq.km), forest (2477.62 sq. km), wastelands (1211.71 sq. km), wetlands (2.61 sq. km) and water bodies (368.52 sq.km) were identified and mapped using on-screen interpretation techniques. The study area has been classified into 32 level-III land use / land cover classes. The predominant category is agricultural land followed by forest. The spatial distribution of land use / land cover map of Annamayya district is presented in Figure-7 and the area statistics are shown in Table-5.

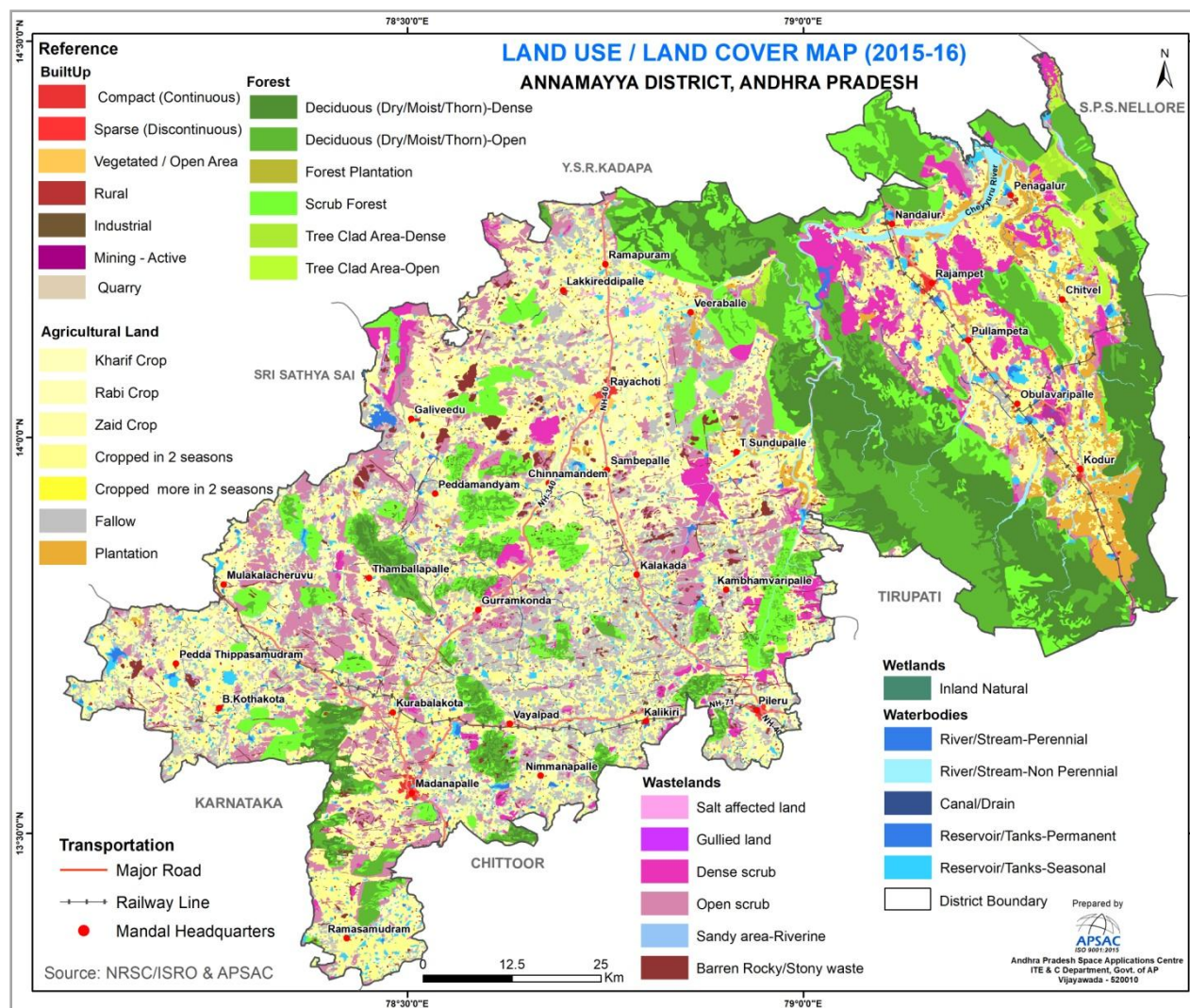


Figure-7: Land use / land cover map of Annamayya District 2015-16

Table 5 Category-wise distributions of Land Use/Land Cover during 2015-16

S. No	LULC categories	Area in sq. km	% to total
Built up		162.81	2.05
1	Compact (Continuous)	14.53	0.18
2	Sparse (Discontinuous)	6.08	0.08
3	Vegetated / Open Area	6.87	0.09
4	Rural	74.34	0.93
5	Industrial	2.74	0.03
6	Mining - Active	5.17	0.07
7	Quarry	53.08	0.67
Agricultural Land		3730.73	46.90
8	Kharif Crop	1268.45	15.95
9	Rabi Crop	27.52	0.35
10	Zaid Crop	6.48	0.08
11	Cropped in 2 seasons	1444.53	18.16
12	Cropped more in 2 seasons	0.34	0.00
13	Fallow	789.79	9.93
14	Plantation	193.62	2.43
Forest		2477.62	31.15
15	Deciduous (Dry/Moist/Thorn)-Dense/Closed	809.94	10.18
16	Deciduous (Dry/Moist/Thorn)-Open/Closed	852.73	10.72
17	Forest Plantation	0.26	0.00
18	Scrub Forest	715.59	9.00
19	Tree Clad Area-Dense	24.89	0.31
20	Tree Clad Area-Open	74.20	0.93
Wastelands		1211.71	15.23
21	Gullied Land	0.21	0.00
22	Salt affected land	17.76	0.22
23	Dense scrub	317.69	3.99
24	Open scrub	745.12	9.37
25	Sandy area-Riverine	0.08	0.00
26	Barren Rocky/Stony waste	130.84	1.64
Wetlands		2.61	0.03
27	Wetlands-Inland Natural	2.61	0.03

Water bodies		368.52	4.63
28	River/Stream-Perennial	6.09	0.08
29	River/Stream-Non Perennial	114.92	1.44
30	Canal/Drain	23.10	0.29
31	Reservoir/Tanks-Permanent	47.50	0.60
32	Reservoir/Tanks-Seasonal	176.91	2.22
Total		7954	100.00

Data source: NR Census 3rd cycle mapping, NRSC/ISRO & APSAC, GoAP

1.4.2.1. Built-up

These are the areas where people live and are supported by infrastructure such as buildings, roads, and other modes of transportation, as well as utilities connected to water, vegetation, and open spaces. It consists of built-up (Compact and Sparse), Vegetated / Open Area, Rural, Industrial, and Mining/Quarry. It occupies an area of 162.81 sq. km, which is about 2.05% of the total geographical area of the district. The district headquarters, some mandal headquarters, industrial areas and rural settlement areas based on size and population have been mapped under the built-up category. Many vacant lands with layouts and fencing are coming up on the outskirts of the major towns for real estate development.

1.4.2.2. Built-up - Compact (Continuous)

Most of the land is covered by buildings, roads, and artificially surfaced areas and covers almost all the ground. The built-up-compact class is assigned where the impermeable surfaces such as the transportation network and urban structures take up more than 80% of the surface area. This category occupied 14.53 sq. km, which are found in urban areas of Rajampeta, Raayachoti, Madhanapalle, Pileru, etc.

1.4.2.3. Built-up - Sparse (Discontinuous)

Most of the land is covered by structures like buildings, roads, and artificially surfaced areas associated with vegetated areas and bare soil, which occupy discontinuous but significant surfaces. Between 30 to 80 % of the total surface should be impermeable. Scattered blocks of residential flats, hamlets, and small villages are delineated under this category. It contributes an area of 6.08 sq. km, which is found in peri-urban areas Rajampeta, Raayachoti, Madhanapalle, Pileru, etc.

1.4.2.4. Vegetated / Open Area

These are vegetated areas within the urban agglomeration (situated within or in contact with urban areas). The vegetation cover of trees, shrubs, and herbs covers the surface area, and it has been delineated.

Open areas used as Parks, sports and leisure facilities, camping grounds, sports grounds, leisure parks, golf courses, race courses, including formal parks, etc are considered in this category. This category occupies an area of 6.87 sq. km.

1.4.2.5. Built-up – Rural

These are the lands used for human settlement of size comparatively less than the urban settlements of which more than 80% of the people are involved in the primary activity of agriculture and associated with non-commercial and allied classes are identified as a built-up (rural) category. The rural built-up area is the predominant category among the built-up category and is spread over the district. It contributed an area of 74.34 sq. km.

1.4.2.6. Industrial

Non-linear impervious surfaces are included in this class which is related to trade, manufacturing, distribution, and commerce. These are areas where human activity is observed in the form of manufacturing along with other supporting establishments for maintenance. The industrial area occupies an area of 2.74 sq. km, which is observed in and around towns.

1.4.2.7. Mining – Active

Mining areas encompass areas under surface operations. It is easy to spot these activities' effects on the landscape because they have left behind enormous giant pit mines. Currently, extensive surface operations being conducted in the active mining areas to remove economically significant ores. A total of 5.17 sq. km. is contributed by the active mining area.

1.4.2.8. Quarry

These are manifestations of surface mining operations wherein small-scale excavation of the land surface of sand, gravel, granite, quartzite quarries, etc., are taking place. They are mostly characterized by their nearness to urban areas. It contributes an area of about 53.08 sq. km and it occupies 0.67% of the total surfaced area.

1.4.2.9. Agricultural Land

Agriculture land is primarily used for the production of food, fiber, and other commercial and horticultural crops. It includes land under crops namely cropland, fallow land, agricultural plantation, and aquaculture. Agriculture is the main source of income for the district's economy and is found as the major category covering 3730.73 sq. km (46.90%) during the period. It is also found that the double-cropped area is about 18.16% of the district total. The major crops grown in the district are paddy, groundnut, sunflower, cotton, betel leaves and horticultural crops like mango, papaya, banana, lemon and sweet orange.

1.4.2.10. Kharif Crop

The agricultural area cultivated between June/July to September/October, coinciding with the South-West monsoon season is considered a Kharif crop. It is associated with rain-fed crops under dry land farming with limited or no irrigation and areas of rain-fed paddy and other dry crops. The second largest agricultural category is kharif cropland, also known as rain-fed agriculture, which covers an area of 1268.45 sq. km (15.95%). The main crops grown during kharif are rice, sugarcane, papaya, banana, redgram, cotton, castor, etc.

1.4.2.11. Rabi Crop

These areas are cultivated between November/December to February/March. It is associated with areas under assured irrigation irrespective of the source of irrigation. However, Rabi-cropped areas also occur in rain-fed regions, under residual soil moisture conditions especially in black soil areas with high rainfall during the Kharif season. Mainly irrigated crops like rice, sugarcane, and chillies are grown during the Rabi season by utilizing canals, tanks, and groundwater resources. In some places, lift irrigation is also practiced in the district. Rabi cropland occupied an area of 27.52 sq. km (0.35%) during the year 2015-16.

1.4.2.12. Zaid Crop

These are the areas that are cropped during summer (April – May) which are mostly associated with irrigated areas with fertile soils, confined to plains/delta areas. Summer crops grown from April to June are mapped under Zaid cropland and occupy an area of 6.48 sq. km during the study period.

1.4.2.13. Cropped in two seasons

These are the areas that are cropped during two cropping seasons that are often seen associated with irrigated areas. Three combinations are possible in this category viz., - Kharif + Rabi, Kharif + Zaid, and Rabi + Zaid. Areas under crop during any two seasons are mapped under cropped in two seasons category and it occupies an area of 1444.53 sq. km (18.16%). These are found in assuring irrigation facilities from canals, tanks, and groundwater.

1.4.2.14. Cropped in more than two seasons

These are the areas that are cropped in more than two cropping seasons. It includes triple-cropped areas (Kharif, Rabi, and Zaid), and areas under multiple cropping. Long-duration crops like sugarcane, cotton, banana, and pineapple are considered under this category. This category occupies an area of 0.34 sq. km of the total geographical area of the district.

1.4.2.15. Fallow land

The agricultural land which is being used for cultivation, but is temporarily allowed to rest or un-cropped for one or more seasons, but not less than a year, and for not more than five years is referred to as fallow land. The fallow land occupies an area of 789.79 sq. km and these are the areas devoid of crops during both the cropping seasons for various reasons.

1.4.2.16. Agricultural Plantation

These are the areas under agricultural tree crops planted adopting agricultural management techniques. These also include the areas of land use systems and practices wherein the cultivation of herbs, shrubs, and vegetable crops are deliberately integrated with crops mostly in irrigated conditions for ecological and economic reasons. These areas are separable from cropland, especially with the data acquired during the Rabi/Zaid season. Plantations appear in dark-red to red tone of different sizes with regular and sharp edges indicating the presence of a fence around it. Plantations like mango, cashew, eucalyptus, teak, etc are grown throughout the district. This category occupies an area of 193.62 sq. km or 2.43% of the total geographical area of the district.

1.4.2.17. Forest

The term forest is used to refer to land with a tree canopy cover of more than 30 percent and an area of more than 0.5 ha. Forest is determined both by the presence of trees and the absence of other predominant land uses within the notified forest boundaries. The trees should be able to reach a minimum height of 5 m within the notified forest boundaries. The forest area occupies an area of 2477.62 sq. km (31.15%) and is found in the east, north, northeast, south, and central parts of the district where several forest species grow. The important species are teak, nalla maddi, rosewood, devadari, sanders, etc.

1.4.2.18. Deciduous (Dry/Moist/Thorn)-Dense

This category is predominantly composed of species, which shed their leaves once a year, especially during summer. These are mostly broad-leaved tropical forests with a tendency to shed their leaves annually. This category includes all the areas where the canopy cover/density is more than 40 % and contributed 809.94 sq. km in the district.

1.4.2.19. Deciduous (Dry/Moist/Thorn)-Open

This category is predominantly composed of species, which shed their leaves once a year, especially during summer. These are mostly broad-leaved tropical forests with a tendency to shed their leaves annually. This category includes all the forest areas where the canopy cover/density ranges between 10 - 40 percent. In addition to timber, these forests also

contain a large variety of fauna like tigers, leopards, wolves, bears, etc. An area of 852.73 sq. km (10.72%) is attributed to this category.

1.4.2.20. Forest Plantation

These are the areas of tree species of forestry importance, raised and managed especially in the notified forest areas. Most of these are located in uplands, coastal areas within notified areas. Many of these can be identified based on the sharp boundaries exhibited by them. Forest plantations, mainly teak, bamboo, casuarinas, etc have been delineated with an area of 0.26 sq. km during the period.

1.4.2.21. Scrub Forest

These are the forest areas that are generally seen on the fringes of dense forest cover and settlements, where there is biotic and abiotic interference. Most times they are located closer to habitations. Forest blanks which are the openings amidst forest areas, devoid of tree cover, observed as openings of assorted sizes and shapes as manifested in the imagery are also included in this category. Most of the scrub forests are found in fringe areas of reserved forests and account for 715.59 sq. km (9.00%), which are generally prone to the conversion of forest plantations and other development activities within the notified forest.

1.4.2.22. Tree Clad Area-Dense

Areas with tree cover lying outside the notified forest area with a woody perennial plant with a single, well-defined stem carrying a more-or-less-defined crown and being at least 3 m tall. Plants essentially herbaceous but with a woody appearance (e.g. Bamboos and ferns) are also classified as trees if the height is more than 5 m and as shrubs, if the height is less than 5 m. This category includes all the areas where the canopy cover/density is more than 40%. The dense tree-clad area contributes an area of 24.89 sq. km, which is found along with forest areas.

1.4.2.23. Tree Clad Area-Open

Areas with tree cover lying outside the notified forest area with a woody perennial plant with a single, well-defined stem carrying a more-or-less-defined crown and being at least 3 m tall. Plants essentially herbaceous but with a woody appearance (e.g. Bamboos and ferns) are also classified as trees if the height is more than 5 m and as shrubs if the height is less than 5 m. This category includes all the forest areas where the canopy cover/density ranges between 10 - 40 percent. The tree-clad open category has been mapped with an area of 74.20 sq. km.

1.4.2.24. Wastelands

Wasteland is described as degraded land which can be brought under vegetative cover with reasonable effort and which is currently underutilized and land which is deteriorating due to lack of appropriate

water and soil management or on account of natural causes. Wastelands can result from inherent/imposed disabilities such as location, environment, chemical and physical properties of the soil, or financial or management constraints. The area under the wasteland category was mapped at 1211.71 sq. km (15.23%) during the study, which consists of further subcategories of salt-affected land, gullied land, dense scrub, open scrub, riverine sand, and barren rocky/stony waste.

1.4.2.25. Salt-affected land

These lands are containing an excessive concentration of salts (soluble salts or exchangeable saline or both). Salinization can result from improper management of canal irrigation water, resulting in the rise of the water table and consequent accumulation of salts in the root zone in arid, semi-arid, and sub-humid (dry) conditions, and they also become saline when soils have developed salt-containing parent materials or have saline groundwater. The salt-affected lands accounted for 13.33 sq. km in the district.

1.4.2.26. Gullied land

Gullies are formed as a result of localized surface run-off affecting the unconsolidated material resulting in the formation of perceptible channels causing the undulating terrain. Gullies develop from rills which are tiny water channels a few centimetres deep, formed as a resultant impact of heavy rainfall and the wearing action of runoff generated there from. They are commonly found on sloping lands, developed as a result of concentrated runoff. Further classification of this category is possible based on the depth, width, bed slope, frequency, and morphology of the bed material of the ravines. They appear in light yellow to bluish-green depending on the surface moisture and depth of erosion. They vary in size and shape with irregular broken network patterns. The gullied lands are mapped in the areas of pediment and the foothill zones, accounting for 0.21 sq. km.

1.4.2.27. Dense scrub

The scrub is usually confined to topographically elevated areas, on the hill slopes generally surrounded by agricultural lands. These areas possess shallow and skeletal soils, at times chemically degraded, extremes of slopes, severely eroded, and lands subjected to excessive aridity with scrubs dominating the landscape. It is found with varying sizes of small to large areas having a contiguous or dispersed pattern. The dense scrub areas are identified on the hills with moderate slopes. About 317.69 sq. km of the area was mapped during the period.

1.4.2.28. Open scrub

This category has a similar description as mentioned in the dense scrub except that they possess sparse vegetation or are devoid of scrub and have a thin soil cover. The open scrub areas are found at the foothills and moderate to gentle slopping areas are surrounded by agricultural lands. The area mapped under this category is about 745sq. km.

1.4.2.29. Riverine sand

Riverine sands are those that are seen as accumulations in the flood plain as sheets which are the resultant phenomena of river flooding. The sandy areas occurring within or in continuity to the river course are to be excluded from this category. The riverine sands are mapped at 0.08 sq. km only along the Cheyyuru River.

1.4.2.30. Barren Rocky/Stony waste

The barren rock exposures are especially confined to hilly terrain with down slopes with rock outcrops, stony waste, and fragments. Barren rocky areas have been observed as rocky outcrops in the forest and scrubland. It is found that most of the barren rocky areas are being quarried for various construction activities in the district. The area under this category is 130.84 sq. km and it occupies 1.64 % of the district.

1.4.2.31. Wetlands

All submerged or water-saturated lands, natural or man-made, inland or coastal, permanent or temporary, static or dynamic which necessarily have a land-water interface, are defined as wetlands. The wetland category contributes 2.61 sq. km and is found along the coastal areas of the district.

1.4.2.32. Inland Natural

These are the areas that include ox-bow lakes, cut-off meanders, playas, swamps, marsh, peat bogs, etc (with vegetation). This category contributes to 2.61 sq. km of the district's total geographical area.

1.4.2.33. Water Bodies

This category comprises areas with surface water, either impounded in the form of ponds, lakes, and reservoirs or flowing as streams, rivers, canals, etc are delineated. These are seen clearly in the satellite image in blue to dark blue or cyan color depending on the depth of water. This category comprises rivers, streams, canals, lakes, ponds, reservoirs, and tanks. The water bodies which include all the sub-categories are about 368.52 sq. km (4.63%).

1.4.2.34. River/Stream-Perennial

Rivers/streams are the natural course of water flowing on the land surface along a definite channel/slope regularly or intermittently towards a sea in most cases or a lake or an inland basin in desert areas or a marsh or

another river. The rivers/streams that flow continuously throughout the year are considered as perennial. It contributes an area of 6.09 sq. km. The Cheyyuru River is mapped under this category in the northeast of the district.

1.4.2.35. River/Stream-Non Perennial

When the water covers the surface for less than nine months each year, it is considered non-perennial. This also includes the dry part of the river generally characterized by the presence of sand or exposed rocks. It is found that most of the rivers/streams are mapped under the non-perennial category and it contributes an area of 114.92 sq. km.

1.4.2.36. Canal/Drain

Canals and drains are artificial watercourses constructed for irrigation, navigation or to drain out excess water from agricultural lands. It contributes an area of 23.10 sq. km.

1.4.2.37. Reservoir/Tanks-Permanent

The reservoir is an artificial lake created by the construction of a dam across the river specifically for hydel power generation, irrigation, and water supply for domestic/ industrial needs, flood control, either singly or in combination. Tanks are small lakes of impounded waterways constructed on land surfaces for irrigation. They are associated with croplands, lowlands, and reservoirs surrounded by hills without vegetation. This includes all reservoirs/tanks with water spread seen at least during one season in a year is considered under the permanent category. The reservoir/tanks-permanent category was delineated with an area of 47.50 sq. km. These are one of the main sources of irrigation and spread over the district.

1.4.2.38. Reservoir/Tanks-Seasonal

Dry reservoirs/tanks are those which do not have water spread throughout the year and are considered seasonal. During the mapping period, where the water spread is not found in the three seasons, those areas are mapped in this category. It is found that many of the tanks fall under the seasonal category with an area of 176.91 sq. km.

1.4.3 Forest Cover Distribution

The forest cover maps were prepared based on the interpretation of multi-source topographical maps and IRS P6 LISS III satellite data. The term forest is used to refer to land with a tree canopy cover of more than 10 percent and an area of more than 0.5 ha. Forest is determined both by the presence of trees and the absence of other predominant land uses within the notified forest boundaries. The trees should be able to reach a minimum height of 5 m within the notified forest boundaries. These forest areas are coming under the Eastern Ghats, which is a phytogeographical region of rugged, hilly terrain running almost parallel to the east coast. The forest cover is distributed with an area of 2477.62 sq. km, which is about 31.15% of the district area. It is found in the east, north, south, and central parts of the district and mainly in the Seshachalam Reserve forests. The spatial distribution of forest cover and its statistics are presented in Figure-8 and Table-6. As per the Forest Department, Government of Andhra Pradesh the Forest boundary map is presented in Figure-9 and the wildlife sanctuary boundary map of Annamayya District is shown in Figure-9A.

Table 6 Forest cover distribution in Annamayya District

	Type of Forest	Area in sq. km	% to district total
1	Deciduous (Dry/Moist/Thorn)-Dense	809.94	10.18
2	Deciduous (Dry/Moist/Thorn)-Open	852.73	10.72
3	Forest Plantation	0.26	0.00
4	Scrub Forest	715.59	9.00
5	Tree Clad Area-Dense/Closed	24.89	0.31
6	Tree Clad Area-Open	74.20	0.93
	Total Forest	2477.62	31.15

Data source: NR Census 3rd cycle mapping, NRSC/ISRO & APSAC, GoAP

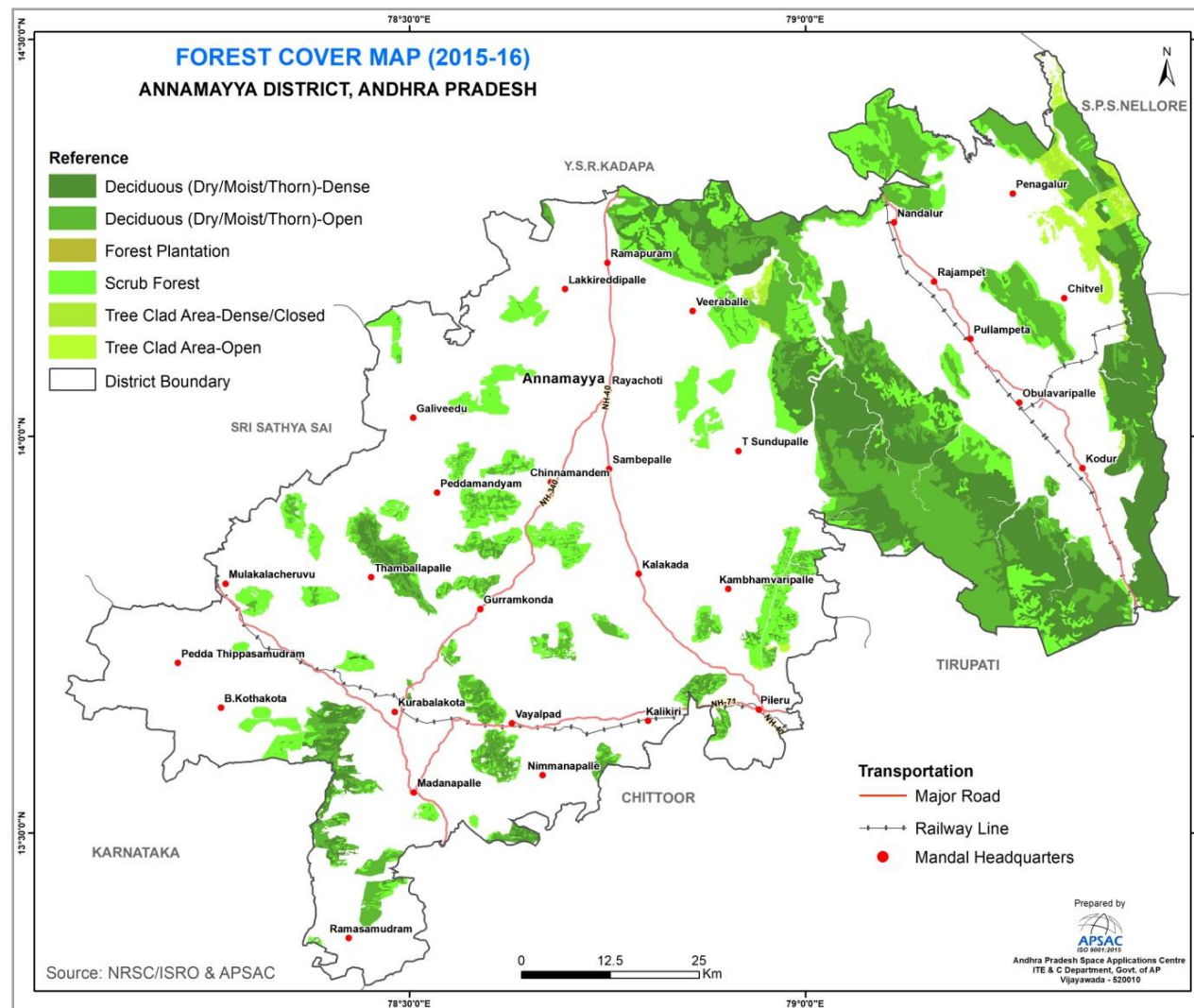


Figure-8: Forest cover map of Annamayya District



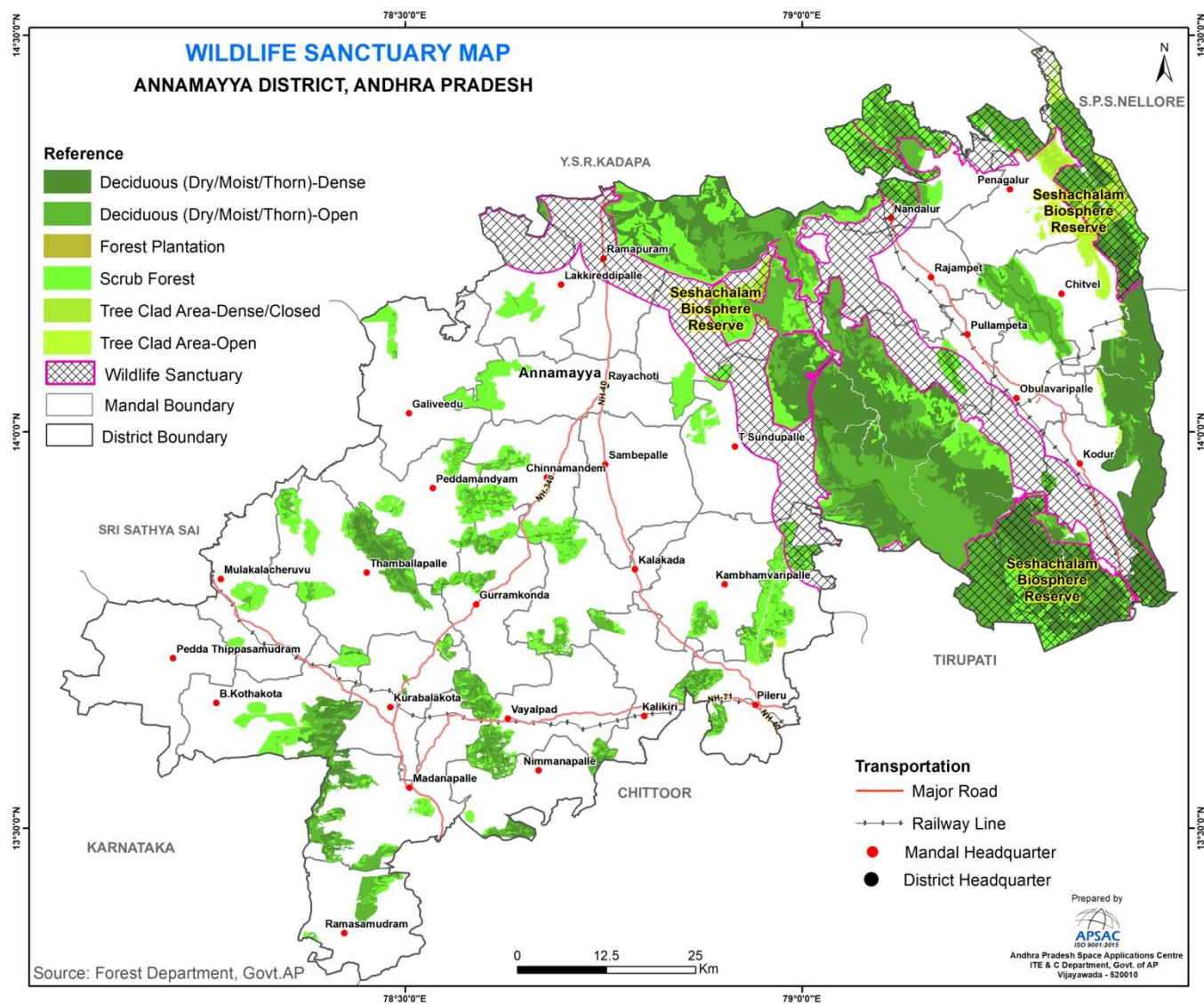


Figure-9A: Wildlife Sanctuary boundary map of Annamayya District

1.4.4 Agricultural Resources in Annamayya District

Over the past two decades, APSAC has effectively employed remote sensing technology in agriculture, encompassing both spatial and temporal dimensions across various projects. The continuous evolution of satellite remote sensing technology has facilitated systematic monitoring of crop conditions and vigor across extensive regions. Within the realm of spectral vegetation indices derived from remote sensing data, the Normalized Difference Vegetation Index (NDVI) stands out as the most widely utilized for operational drought assessment. Its popularity stems from its straightforward calculation, ease of interpretation, and the capacity to mitigate the impacts of atmospheric conditions, illumination geometry, and other variables.

APSAC conducted in-season crop condition assessments at the Mandal level in Andhra Pradesh. This initiative aimed to provide administrators and planners with crucial insights for strategic decision-making regarding drought management, import-export policies, and trade negotiations. The NDVI is calculated using the formula $(NIR - Red) / (NIR + Red)$, where NIR and Red represent the reflectance in the visible and near-infrared channels, respectively. Water, clouds, and snow exhibit higher reflectance in the visible region, causing NDVI to assume negative values for these features. Bare soil and rocks, with similar reflectance in both visible and near-infrared regions, yield index values close to zero. NDVI values for vegetation typically range from 0.2 to 0.6, with higher values associated with greater green leaf area and biomass. The Shortwave Infrared (SWIR) band is sensitive to soil and crop canopy moisture. Early in the cropping season, when soil background dominates, SWIR is sensitive to top 12 cm soil moisture. As crop growth progresses, SWIR becomes sensitive to leaf moisture content, providing surface wetness information.

The Normalized Difference Wetness Index (NDWI), computed using SWIR data, complements NDVI for drought assessment, especially in the early cropping season. NDWI is derived as follows: $NDWI = (NIR - SWIR) / (NIR + SWIR)$, where NIR and SWIR represent reflected radiation in the Near-Infrared and Shortwave Infrared channels. Higher NDWI values indicate increased surface wetness.

For satellite-based crop condition anomalies indicating agricultural drought, the Vegetation Condition Index (VCI) of both NDVI and NDWI can be

computed. When combining VCI values of NDVI and NDWI, the minimum of the two can be considered. For instance, if at least one is categorized as severe, the overall category is considered severe. If at least one is moderate, the overall category is taken as moderate. The vegetation conditions and corresponding ranges are detailed in Table-7.

Table 7 Vegetation condition and range in percentage

VCI range (%)	Vegetation Condition	Description
60-100	Normal	Crop condition is Normal
40-60	Moderate	Crop condition is Moderate
0-40	Severe	Crop condition is Severe

1.4.4.1 Kharif Crop Condition Assessment

Andhra Pradesh Space Applications Centre (APSAC) conducted a crop condition assessment in Annamayya district during Kharif 2022-23 utilizing MODIS (Moderate Resolution Imaging Spectroradiometer) satellite data. The assessment revealed that out of the total mandals in the district, 26 were categorized as having a normal crop condition, 03 were classified as moderate, and 01 were identified as severe. Notably, urban and forest cover mandals were excluded from the vegetation condition assessment. This comprehensive evaluation provides valuable insights into the agricultural landscape of Annamayya district, aiding in targeted interventions and resource allocation to mitigate the impacts of varying crop conditions.

1.4.4.2 Rabi Crop Condition Assessment

During Rabi 2022-23, the assessment identified all the 30 mandals with normal crop conditions. Notably, mandals predominantly covered by urban or forest areas were excluded from the vegetation condition assessment. This evaluation provides valuable insights into the agricultural status of Annamayya district during the Rabi season, facilitating informed decision-making and resource allocation to support agricultural sustainability and productivity.

1.4.5 Soil Resources of the Annamayya District

The Annamayya district in Andhra Pradesh boasts a diverse array of soil types, each contributing to the region's agricultural landscape. Shallow gravelly red soils dominate the area, covering an extensive 4435.93 sq. km. (49.11%). Following closely are loamy to clayey skeletal deep reddish brown soils, spanning 1182.74 sq. km. (13.09%). Also present are clayey to

gravelly clayey moderately deep dark brown soils, occupying 1029.35 sq. km. (11.40%). Additionally, loamy to gravelly clay deep dark reddish brown soils spread over 920.64 sq. km. (10.19%). Other significant soil types include gravelly clayey moderately deep red soils covering 461.3 sq. km. (5.11%), gravelly clayey shallow dark brown soils encompassing 457.75 sq. km. (5.07%), and gravelly loamy dark brown moderately deep soils spanning 274.52 sq. km. (3.04%). Moreover, moderately deep calcareous black soils occupy 190.41 sq. km. (2.11%), while deep black clayey soils cover 59.88 sq. km. (0.66%). Lastly, moderately deep calcareous moist clayey soils account for 19.74 sq. km. (0.22%) of the district's soil composition. This diverse range of soils contributes to the agricultural richness and productivity of the Annamayya district. The soil resource map of the district is shown in Figure-10 and the soil category with area is shown in Table-8.

Table 8 Soil classes in Annamayya district

S.No	Classification	Area in Sq.km	Percent age (%)
1	Clayey to gravelly clayey moderately deep dark brown soils	1029.35	11.40
2	Deep black clayey soils	59.88	0.66
3	Gravelly clayey moderately deep red soils	461.3	5.11
4	Gravelly clayey shallow dark brown soils	457.75	5.07
5	Gravelly loamy dark brown moderately deep soils	274.52	3.04
6	Loamy to clayey skeletal deep reddish brown soils	1182.74	13.09
7	Loamy to gravelly clay deep dark reddish brown soils	920.64	10.19
8	Moderately deep calcareous black soils	190.41	2.11
9	Moderately deep calcareous moist clayey soils	19.74	0.22
10	Shallow gravelly red soils	4435.93	49.11
	Total [#]	9032.26	100.00

[#]Excluding the Urban and Water bodies area

Data Source: APSAC, Vijayawada

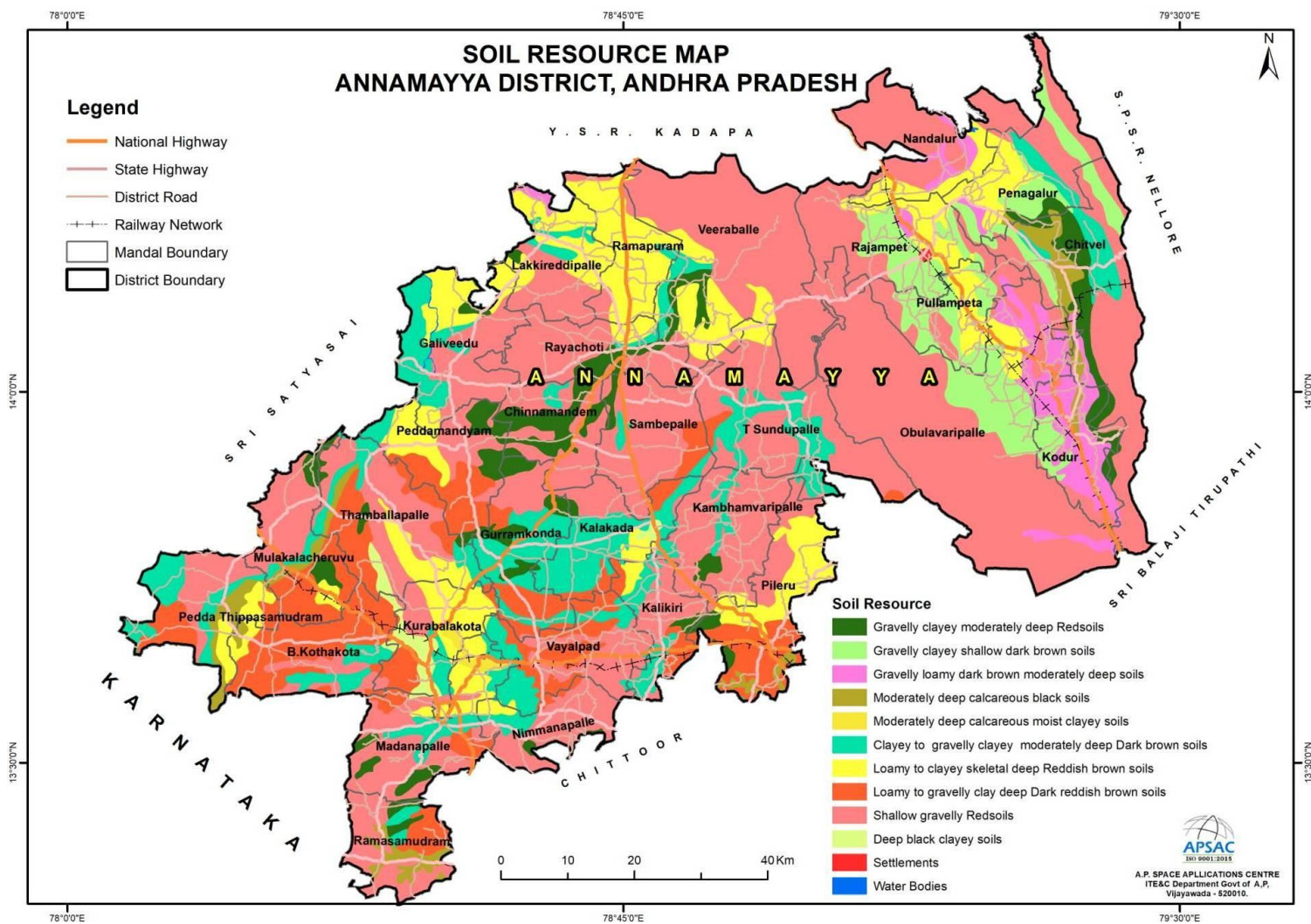


Figure-10: Soil resource map of Annamayya District

1.4.6 Horticulture

Horticulture encompasses both the scientific understanding and artistic practice involved in cultivating, utilizing, and enhancing various horticultural crops, including fruits, vegetables, spices, ornamental plants, plantation crops, medicinal herbs, and aromatic plants. It encompasses a wide range of activities such as plant conservation, landscape restoration, garden design, construction, maintenance, arboriculture, and the cultivation of ornamental trees and lawns.

In the Annamayya district, mango stands out as the primary horticultural crop, cultivated across 3017.45 hectares of land. Following mangoes, bananas cover an area of 427.35 hectares, while acid lime cultivation spans 243.3 hectares. Additionally, papayas are grown over 154.41 hectares, and sweet oranges cover 43.61 hectares. Overall, the total area dedicated to horticultural crops in the district amounts to 4025.72 hectares. The detailed breakdown of horticultural crops by area is presented in Table-9.

Table 9 Area of horticultural crops in Annamayya district

S.No	Crop	Area in ha
1	Blueberry	0.84
2	Sapota	5.06
3	Black Berry	30.73
4	Lime/Lemon/Citrus	7.13
5	Jamun	0.85
6	Anjura(Fig)	2.02
7	Dragon Fruit	6.9
8	Papaya	154.41
9	Banana	427.35
10	Custard Apple	3.43
11	Sweet Orange	43.61

12	Sweet Lime	1.2
13	Ber	0.78
14	Mangoes	3017.45
15	Guava	28.46
16	Pomegranate	26.32
17	Acid Lime	244.3
18	Arecanut	9.46
19	Coconut	10.59
20	Coco	2.95
21	Coconut & Cocoa	2
22	Mulberry	0.72
	Total Area	4025.72

Source: Government of Andhra Pradesh Rashtriya Krishi Vikas Yojana-2022-23.

1.4.7 Salt-Affected Land

The term 'salt-affected soil/land' refers to soils in which salts interfere with normal plant growth. Salt-affected soils can be divided into saline, saline-sodic and sodic, depending on salt amounts, type of salts, the amount of sodium present, and soil alkalinity. (Reference FAO Soils Portal)

These lands contain an excessive concentration of salts (soluble salts or exchangeable saline or both). Salinization can result from improper management of canal irrigation water, resulting in the rise of the water table and consequent accumulation of salts in the root zone in arid, semi-arid, and sub-humid (dry) conditions and ingress of seawater in coastal regions and/or use of high salt containing groundwater. They also become saline when soils have developed salt-containing parent materials or have saline groundwater. The salt-affected soil/land area in the Annamayya district is 8,004 hectares. Figure-11 illustrates the spatial distribution of salt affected soil in Annamayya district.

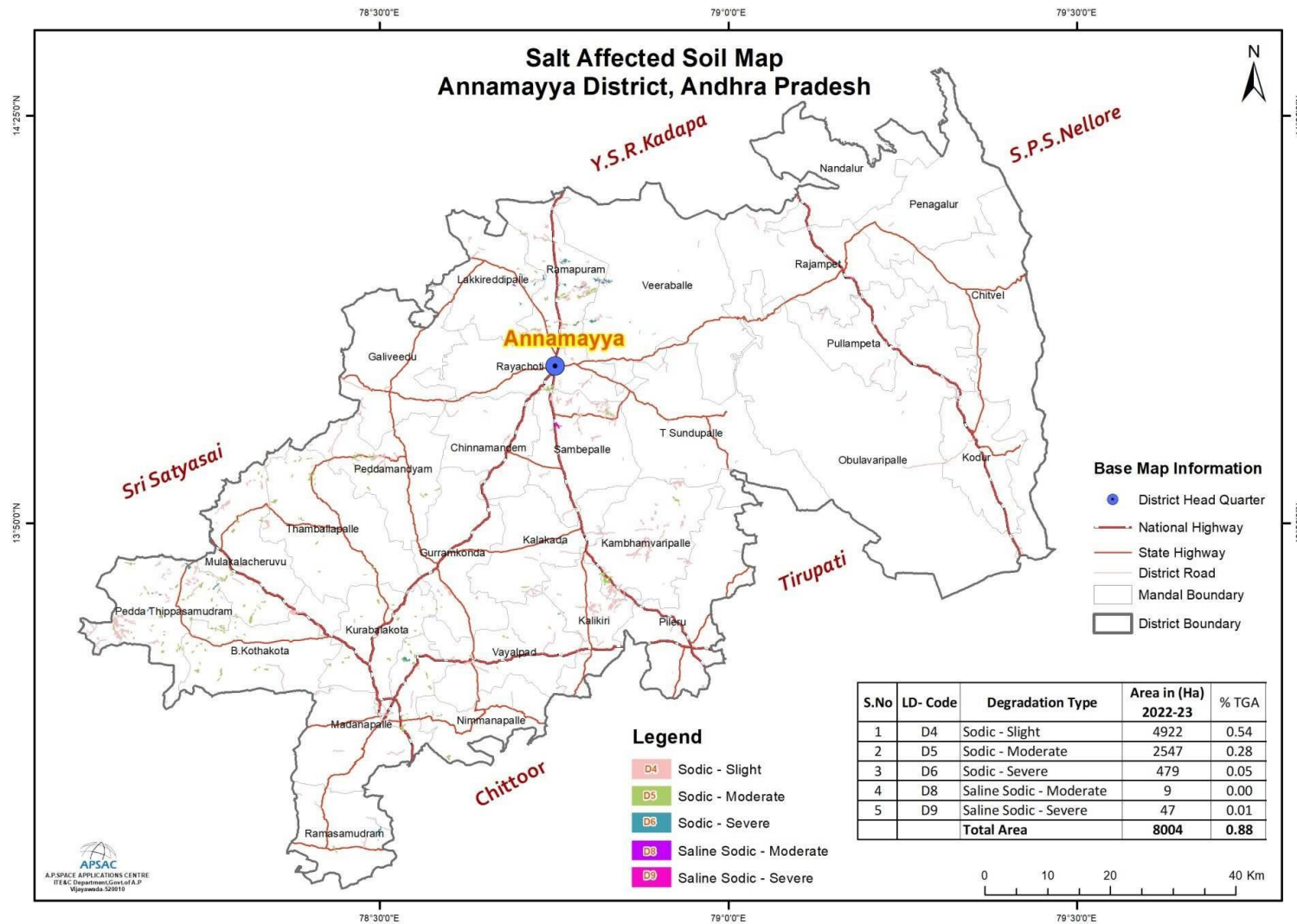


Figure-11: Salt affected soil map of Annamayya District

1.6 Infrastructure

1.6.1 Transport Network

Annamayya district is well-connected by various modes of transportation such as road and rail. The connectivity of each category is also depicted in Figure-13. The details of each transport network distribution are of the district is given below.

1.6.1.1. Road Transport: The road network of the district has been delineated by using high resolution satellite data under Space Based Information Support for Decentralized Planning (SIS-DP) project and arrive the lengths of the each type of road network. It can be observed that Annamayya district has a well-developed road network that facilitates connectivity to all towns within the district, and to other major cities and towns of nearby districts. The major road network includes National Highways (NH), State Highways (SH), and District Roads (DR). The rural area of the district has also good connectivity by Panchayat Raj roads/village roads.

The total length of the road network in the district is about 14,986.35 km of which, the length of the National Highways is about 340.13 km, State Highways is having a length of about 612.34 km. The district roads connecting all towns and mandals are having a length of 2261.37 km. The length of each road category covered in the district is shown in Table-10.

Table 10 Road Category wise Lengths

S.No	Road Type	Length in Km
1	National Highway	340.13
2	State Highway	612.34
3	District Road	2261.37
4	Village Road	5562.62
5	Cart Track	4304.60
6	Foot Path	1792.75
7	City Road	112.53
Total Length		14986.35

Data Source: R&B Department & APSAC, Vijayawada.

Annamayya district is traversed by five National Highways. The traverse and description of each highway is as given below:

1.6.1.1.1. National Highway 40 (NH 40): National Highway 40, also called Rayalaseema Express Highway, starts at NH 44 junction at Kurnool and passes through Y.S.R.Kadapa and Chittoor districts and terminates at Ranipet in Tamil Nadu. It traverses through the mandals such as Ramapuram, Rayachoti, Sambepalli, Kalakada and Pileru in Annamayya district. The highway was transformed into four lanes between Kurnool and Kadapa.

1.6.1.1.2. National Highway 71 (NH 71): National Highway 71 lies completely in the state of Andhra Pradesh. This highway passes through the Temple city Tirupati and connects with Coastal Andhra Pradesh. The western terminal starts at the junction of National Highway 42 near Madanapalle and terminates at the junction of National Highway 16 near Naidupeta in the east. It starts at Madanapalle in Annamayya district and passes through Vayalpad, Kalikiri, Pileru, Chinnagottigallu, Tirupati, Renigunta, Yerpedu and Srikalahasti before it ends at Naidupet road.

1.6.1.1.2.3. National Highway 716 (NH 716): National Highway 716 starts from its junction with NH 16 near Chennai in Tamil Nadu and terminates at Y.S.R.Kadapa district in Andhra Pradesh. It enters at Nagari in Chittoor District and passes through Tirupati, Annamayya and Y.S.R.Kadapa districts, Passes through the mandals Nagari, Puttur, Vadamalapeta, Renigunta, Kodur, Obulavaripalle, Rajampet, Nandalur, Vontimitta and connects NH 40 at Y.S.R. Kadapa.

1.6.1.1.2.4. National Highway 340 (NH 340): National Highway 340 was formed as a new highway by up-grading former state highway of the state. It traverses through Annamayya district and passes through the mandals Rayachoti, Chinnamandem, Gurramkonda, Kurabalakota and Madanapalle in Andhra Pradesh and terminates at Bangalore in Karnataka.

1.6.1.1.2.5. National Highway 42 (NH 42): National Highway 42 runs in the states of Andhra Pradesh and Tamil Nadu. The northern terminal is at the National Highway 44 junction south of Anantapuramu inside Andhra Pradesh state and the southern terminal is at the National Highway 44 junction near Krishnagiri in Tamil Nadu. In Andhra Pradesh it traverses through Mulakalacheruvu, Kurabalakota and Madanapalle. In Annamayya district and it passes through the mandals Anantapuramu, Kadiri, Madanapalle, Punganur, and Kuppam. In Tamil Nadu, it connects NH 44 at Krishnagiri.

Some important State Highway segments covered in the district are given below.

Rajampet-Kadiri-Thumukur road (SH059)
 Nimmanapalle-Vayalpad Gurramkonda Galiveedu road (SH066)
 Mudeveedu - Thamballapalle - Peddamandyam road (SH401)
 Rajampet-Gudur-Duggirajapatnam road (SH371)
 Mulakalacheruvu Kandlamadugu road (SH411)
 Rayachoti- T.Sundupalli - Pincha (SH387)
 Madanapalle town Kandur road (via) Nimmanapalle (SH421)

1.6.1.2. Railways: The Indian Railway line traversing from various stations to cater the transportation needs of the people. The length of Rail network in the district is about 182.55 km covering 17 railway stations. Among these, important Railway stations are Kalikiri, Koduru, Madanapalle, Mulakala Cheruvu, Nandalur, Obulavaripalli Junction, Piler, Pullampet, Rajampeta, Vayalpad; and the Train stations are Anantarajupet, Balapalle, Hastavaram, Kurabalakota, Reddipalle, Settigunta and Tummanamgutta.

Annamayya district is traversed by a significant railway line that connects various parts of the district and provides connectivity to neighbouring regions. Chennai-Mumbai Main Line that passes through Annamayya district is a major trunk route that connects Chennai in Tamil Nadu with Mumbai in Maharashtra and facilitating passenger and freight transportation across the region. It passes through Annamayya district, connecting important railway stations such as Koduru, Obulavaripalli Junction, Pullampet, Rajampet and Nandalur.

The Guntakal-Renigunta section connects Guntakal and Renigunta in the Indian state of Andhra Pradesh. It is administered under Guntakal railway division of South-Central Railway zone. It passes through Annamayya district, connecting important railway stations such as Mulakalacheruvu, Tummanamgutta, Madanapalle, Vayalpad, Kalikiri and Piler.

In addition to the main line, there are various branch lines and spur lines namely Obulavaripalli Junction-Krishnapatnam port, which connects Obulavaripalle of Y.S.R. Kadapa district and Krishnapatnam of S.P.S.Nellore district. It extends from the main line to connect specific towns with in Annamayya district. These lines provide local connectivity and transportation services to different parts of the district.

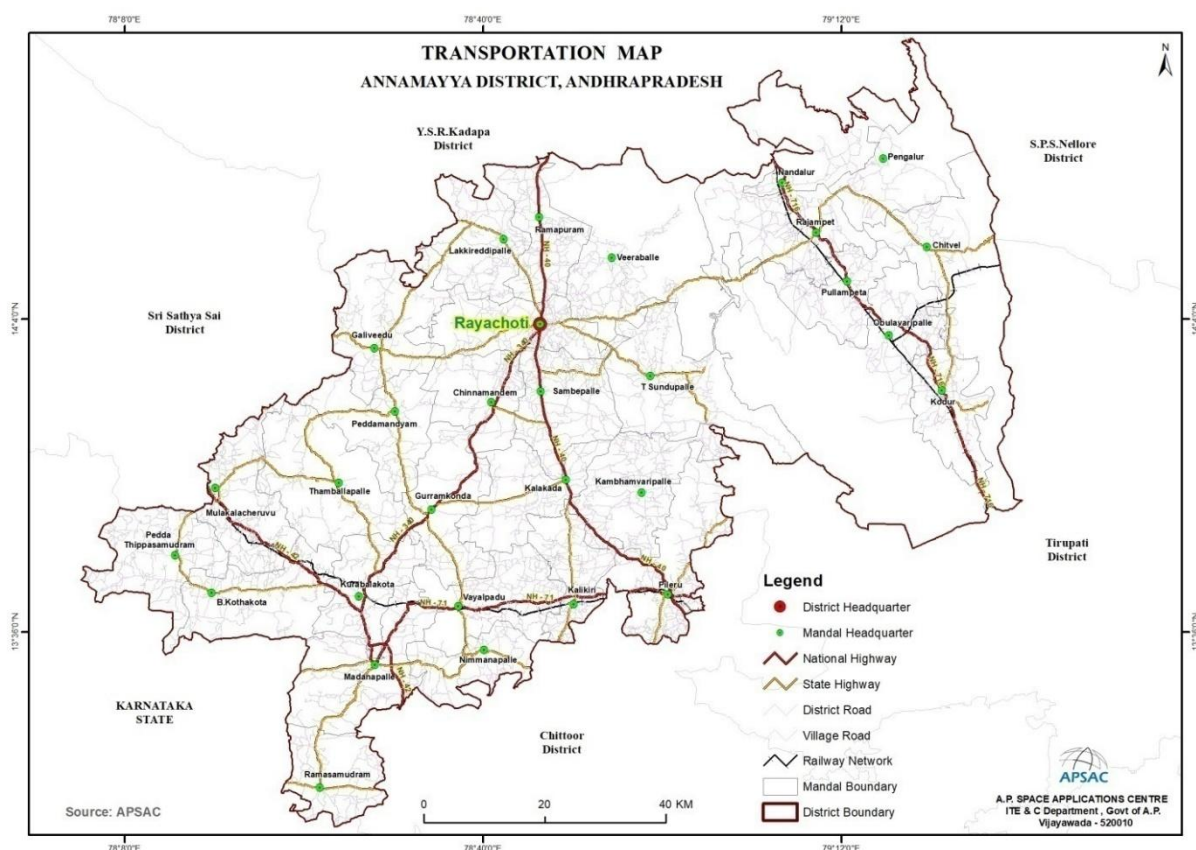


Figure-13: Transport Network of Annamayya District

1.6.2 Irrigation

Irrigation has assumed an increasing significance in agriculture in the context of new technology, where high yielding varieties and multiple cropping is being practiced. The main reasons for low yields are inadequate rainfall, uneven and uncertain rains during the period of crop growth. It is generally found that the introduction of irrigation is associated with changes in the cropping pattern. The shift from traditional cropping pattern to the most advantageous cropping pattern is possible only in the presence of irrigation facilities. The new agricultural technology is highly based on sufficient moisture conditions. Thus, the development of irrigation is crucial for increasing agricultural production. The major and medium irrigation projects details are shown in Table.11 and Figure-14.

1.6.2.1. Major Irrigation Projects:

In Annamayya district there are two ongoing major irrigation projects i.e., Handri Neeva Sujala Sravanthi Phase-II (HNSS Phase-II) and Krishna Devaraya Galeru Nagari Sujala Sravanthi (GNSS). The project wise ayacut details are HNSS Phase-II project an extent of 1,55,350 Ac ayacut and

GNSS project an extent of 1,55,000 Ac in YSR Kadapa combined district ayacut.

1.6.2.2. Medium Irrigation Projects:

In Annamayya district there are six medium irrigation projects i.e., Annamaya Project, Bahuda Reservoir Project, Pedderu Reservoir Project, Jerrikona Project, Pincha Project and Veligallu Project.

The Minor Lift Irrigation Schemes under APSIDC (2Nos) covered in the district, an extent of 200 Ac ayacut, Minor Irrigation Tanks (181Nos - above 100 acres ayacut) an extent of 64,837 Ac and Minor Irrigation Tanks (3,557Nos - bellow 100 acres ayacut) an extent of 57,062 Ac combined district ayacut.

Table 11 Major and Medium Irrigation Projects in Annamayya District

S. No	Project Type	Name of the Project	Status	Ayacut in Ac
1	Major	Ananta Venkata Reddy Handri Neeva Sujala Sravanthi (HNSS-II)	Ongoing	1,55,350
2		Krishna Devaraya Galeru Nagari Sujala Sravanthi (GNSS)(<i>Combined YSR Kadapa District</i>)		1,55,000
3	Medium	Annamaya Project	Completed	22,500
4		Bahuda Reservoir Project		2,880
5		Pedderu Reservoir Project		4,300
6		Jerrikona Project		4,900
7		Pincha Project		3,773
8		Veligallu Project		24,000
9	Minor	Minor Lift Irrigation Schemes under APSIDC (2Nos)	Ongoing	200
10		Minor Irrigation Tanks - 181Nos (<i>Ayacut above 100 Acres</i>)	Completed	64,337
11		Minor Irrigation Tanks - 3557Nos (<i>Ayacut bellow 100 Acres</i>)		57,062
Total				4,94,302

Data source: WRD, APWRIMS, Govt. of A.P.

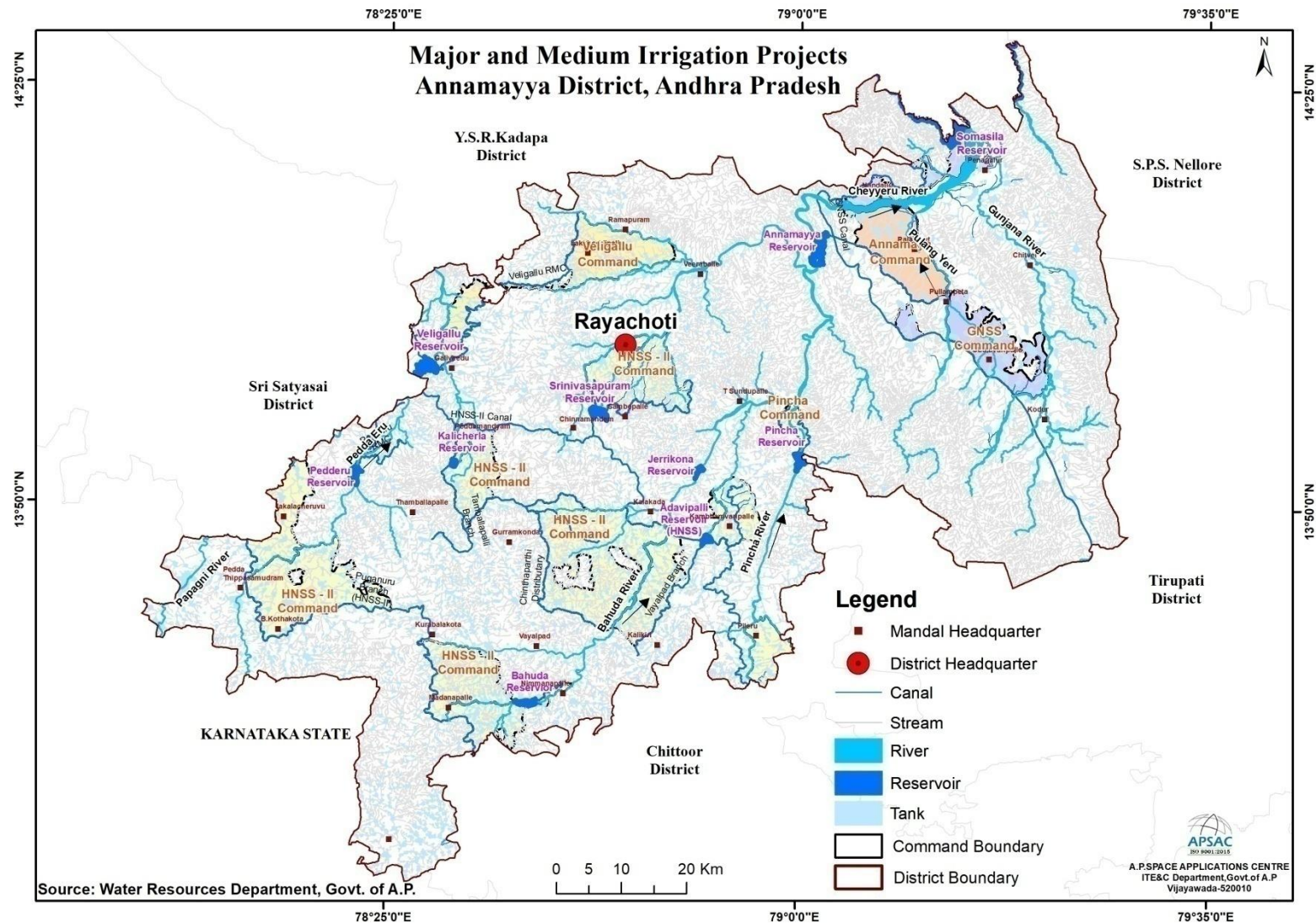


Figure-14: Major and Medium Irrigation Projects of Annamayya District

1.6.2. Tank Information System

As per the information of Water Resources Departmental portal Andhra Pradesh Water Resources Information & Management System (APWRIMS) and portal URL:<https://apwrims.ap.gov.in/> in Annamayya district has 3,089 minor irrigation tanks. The Designed Storage Capacity of Annamayya district is 14,278.81mcft and Current Storage Capacity is 8,428.62 mcft. The mandal wise minor irrigation tanks details of Annamayya district are shown in Table-12.

Table 12 Mandal wise Minor Irrigation Tanks details of Annamayya district

S.No	Mandal	No.of MI Tanks	Designed Storage Capacity (mcft)	Current Storage Capacity (mcft)
1	B KOTHAKOTA	153	599.76	317.51
2	CHINNAMANDEM	63	94.8	68.14
3	CHITVEL	20	671.77	384.87
4	GALIVEEDU	221	547.08	361.37
5	GURRAMKONDA	132	504.65	363.17
6	KALAKADA	116	630.19	541.98
7	KALIKIRI	161	2,226.00	1,466.14
8	KAMBHAMVARIPALLE	218	559.73	110.52
9	KODUR	18	330.28	233.85
10	KURABALAKOTA	144	207.52	103.87
11	LAKKIREDDIPALLE	104	373.3	200.27
12	MANDAPALLE	140	443.4	280.77
13	MULAKALACHERUVU	96	400.16	228.39
14	NANDALUR	8	263.61	34.29
15	NIMMANAPALLE	128	599.51	550.03
16	OBULAVARIPALLE	26	371.28	152.68

17	PEDDAMANDYAM	129	349.28	196.07
18	PEDDATHIPPASAMUDRA	101	972.28	802.96
19	PENAGALURU	18	235.77	21.11
20	PILERU	198	213.38	84
21	PULLAMPETA	21	262.83	73.48
22	RAJAMPET	14	572.81	170.6
23	RAMAPURAM	89	398.99	279.49
24	RAMASAMUDRAM	138	529.54	402.93
25	ROYACHOTI	116	323.87	72.23
26	SAMBEPALLE	65	100.14	19.69
27	T SUNDUPALLE	108	187.18	78.53
28	THAMBALLAPALLE	130	428.43	285.63
29	VALMIKIPURAM	113	598.8	364.94
30	VEERABALLE	101	282.46	179.1
TOTAL		3,089	14,278.81	8,428.62

Data source: WRD, APWRIMS, Govt. of A.P.

1.6.3 Eco-sensitive and Important places

Annamayya district is blessed with several tourist attractions that offer a mix of historical, cultural, and natural wonders. The important popular tourist, religious and cultural places to visit in the Annamayya district are shown in the Table-13 and the geographical location of each place is depicted in Figure-15.

Table 13 Mandal wise Minor Irrigation Tanks details of Annamayya district

S.No	Name	Village	Mandal
1	Annamayya Reservoir	R.Buduguntapalle	Rajampet
2	Buddha Stupas	Adapur	Nandalur
3	Horsley Hills	Forest	Thamballapalle
4	Sri Boyakonda Gangamma Temple	Forest	Nimmanapalle

5	Sri Kailasanadeswara Swamy Temple	Mellacheruvu	Pileru
6	Sri Parasurama Temple	Poli	Rajampet
7	Sri Sowmyanatha Swamy Temple	Nandalur	Nandalur
8	Sri Veerabhadra Swamy Temple	Rayachoty	Rayachoti

Data Source: Tourism Department, Government of Andhra Pradesh.

A brief description of certain tourist places is given below:

1.6.3.1. Horsley Hills: Horsley Hills are located at about 77 km from the district headquarter Rayachoti and about 9 miles from Madanapalle town. The local name of the hill was Yenugu Mallama Konda. In contrast to the dry and hot surrounding, this area is well vegetated with cooler climate. This made it attractive as a hill station and a tourist spot.

1.6.3.2. Annamayya Reservoir: Annamayya Reservoir is located at about 59 km from the district headquarter Rayachoti. Annamayya Project (Cheyyeru) is a completed Medium Irrigation Project constructed across Cheyyeru, a tributary to Penna River located near Badanagadda Village, Rajampet Mandal, and Annamayya District.

1.6.3.3. Buddha Stupas: Buddha Stupas are located at a distance of about 65 km from the district headquarter Rayachoti. A Buddhist site was found in Adapur village of Nandalur. This site is on the left bank of the Cheyyeru River which flows beneath the foot of this hillock. Several historical remains Maha Stupa, 21 Votive Stupas, a Vihara, an Apsidal Chaityagriha, brick platform, staircase and some other were found in this site during the excavation process conducted by Department of Archaeology, Andhra Pradesh.

1.6.4 Places of Religious and Cultural importance

1.6.4.1. Sri Parasurameshwara temple: Sri Parasurameshwara temple is located at about 62 km from the district headquarter Rayachoti. It is a very sacred place, located on the east bank of the river Cheyyeru. It is a centre of Vedic culture and famous for its scenic beauty. To the south of this temple there is a 72 pillared hall and on the eastern side there are two famous temples on the hill slope dedicated to Gadhadara and

Thretheswara. Gadhadara stands on one leg here. The presence of Gadhadara and holy river Cheyyeru, Attirala is considered as sacred as Gaya Kshetram. Parasurama Kshetra, is worth seeing for its sculptural beauty and grand appearance.

1.6.4.2. Sri Soumyanatha Swamy temple: Sri Soumyanatha Swamy temple is located at on the west bank of river Cheyyeru and about 64 km from the district headquarter Rayachoti. It is a replica of Thiruvannamalai and patronized by Cholas, Pandyas, Kakatiyas, Vijayanagara, Pottapi and Matli Kings. Lord Sowmyanatha is installed on an elevated place and attracts pilgrims with his glittering beauty.

1.6.4.3. Sri Veerabhadra Swamy Temple: Sri Veerabhadra Swamy Temple is located at about 650 meters from the district headquarter Rayachoti. Sri Veerabhadra Swamy Temple is a renowned temple of the region that lies on the banks of the river kundu. It is constructed in such a way that the rays of sun fall on lord Veerabhadras image for 5 days in the month of March. On the first day the rays fall on the feet of the lord, and it goes upward each day and finally touches the face on the fifth day.

1.6.4.4. Sri Kailasanadha Swamy Temple: Sri Kailasanadha Swamy Temple is located at about 70 km from the district headquarter Rayachoti. It is a Shiva temple located at Mellacheruvu, Andhra Pradesh. Lord Siva temple is located just near the waterfalls.

1.6.4.5. Sri Boyakonda Gangamma temple: Sri Boyakonda Gangamma temple is located at about 60 km from the district headquarter Rayachoti. During the armed struggle with the Nawabs of Arcot, the tribal people living in and around the nearby Chowdepalle village went to the hillock and prayed to the Goddess Jagannatha for safety. The sword of the Goddess fell on a huge rock, which cracked. The devotees believe that the broken rock is a testimony to the divine power of the Goddess.

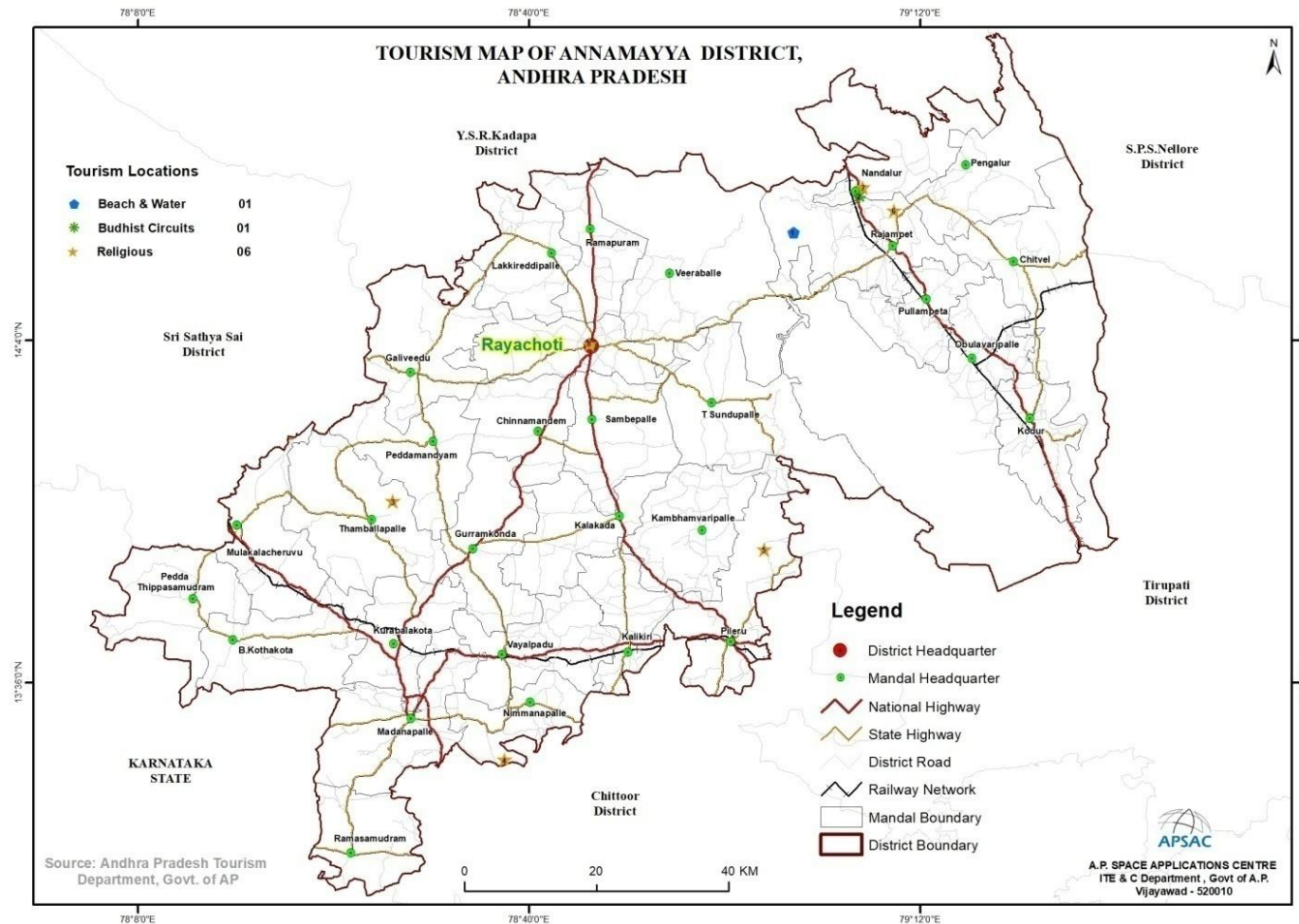


Figure-15: Tourism Map of Annamayya district, Andhra Pradesh

1.7 Drainage Pattern

1.7.1 Drainage

The important river in the district is Pennar River and covered with 96% of the total area. The remaining part of the district partially covered with Swarnamukhi and Palar rivers. The Pennar river flows towards north direction and the major tributaries are Cheyyeru, Papagni, Bahuda, Pincha and Pedderu rivers in the district.

The Cheyyeru River and its tributaries are mainly covered in Annamayya district. The Cheyyeru River rises in Horsely hills, Annamayya district and flows through Chittoor district under the name of the Bahuda River and after being fed by several smaller streams the principal of which is the Pincha River follows through the Sheshachalam hills and merged into Pennar River near Rangayapalle village, Nandalur mandal in Annamayya district.

The Papagni river (Pennar) rises near Nandi Hills of Chikkaballapur district in Karnataka State and enters into Andhra Pradesh near T.Sadum village in Peddatippasamudram mandal. The river flows towards north direction through Thamalapalle, Rayachoti Assembly Constituencies in Annamayya district and leaves the district near Talamudipi village in Galiveedu mandal. Figure-16 illustrates the drainage system, and the surface water bodies.

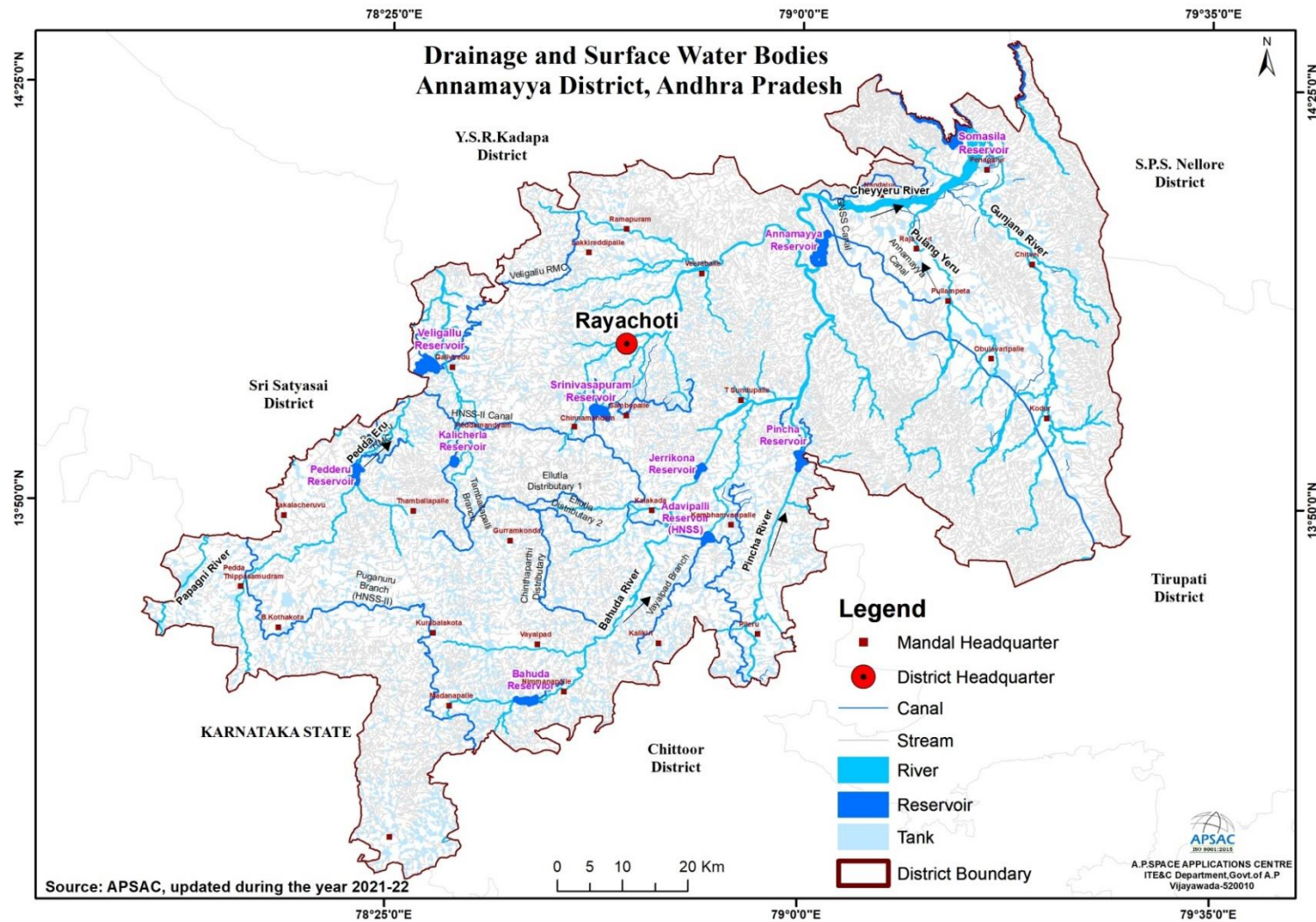


Figure - 16: Drainage Network and Surface Water Bodies of the Annamayya District

1.7.2 Geomorphology of the District:

Geographically, the territory is composed of the Annamayya Super Group of rocks of upper Proterozoic age. The investigation area primarily consists of the Pullampet formation and alluvium of recent age. The Pullampet formation, which is the southeastern outcrop of the Kadapa basin, comprises lower purple shale with prevailing dolomitic bands followed by quartzites and a calcareous succession of dolomitic limestones and shale. The taluk is situated in the southeastern part of the Kadapa basin, where the formations have minimum thickness and are unmetamorphosed, with common disturbances such as folding, faulting, and jointing. The beds exhibit gentle dips and variations in strike direction. Groundwater in the investigation area occurs in weathered and fractured zones. The occurrence and movement of groundwater are primarily controlled by the geological, geomorphological, and structural setup of the area, as shown in Figure-17.

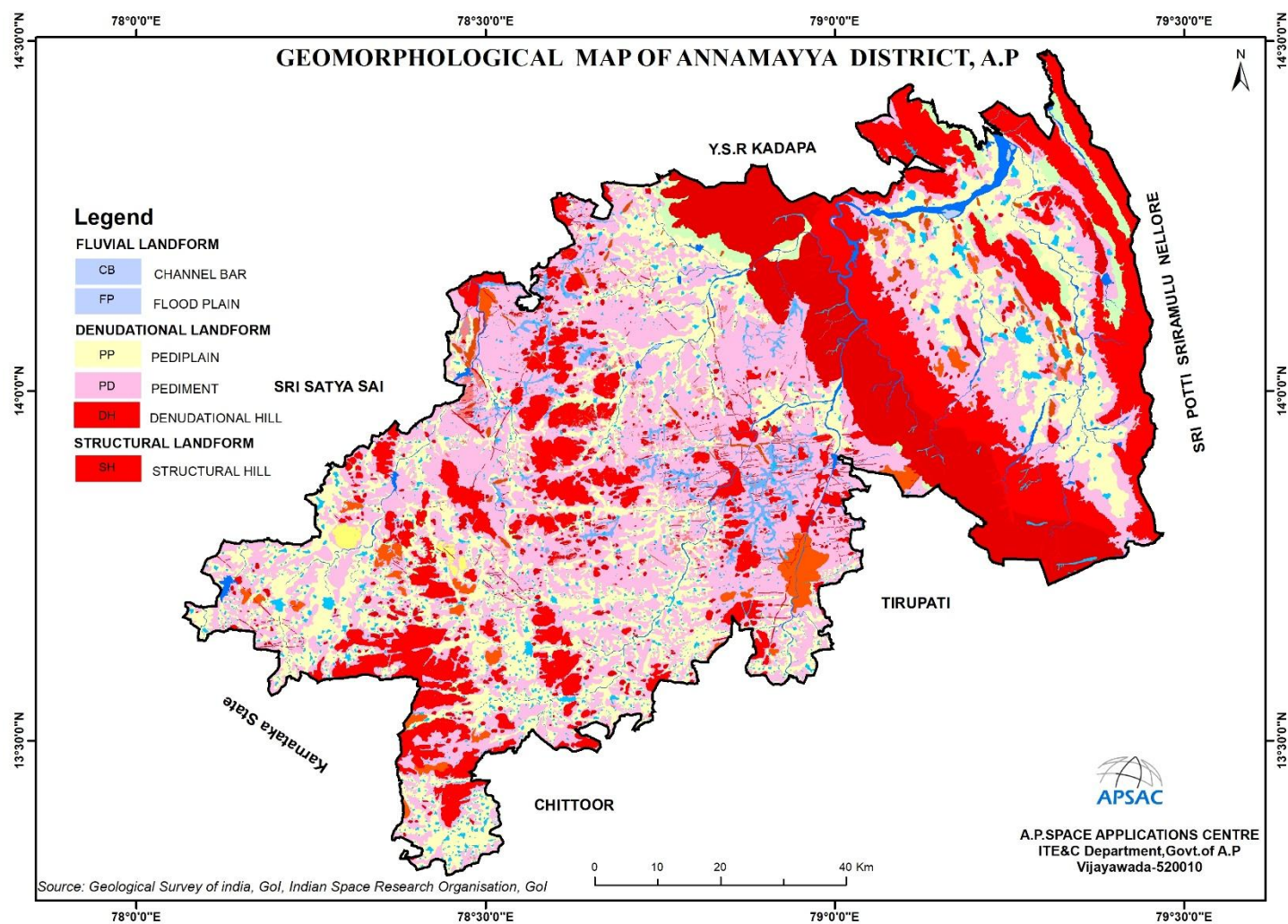


Figure 17: Geomorphology of Annamayya District, Andhra Pradesh

1.7.3 Landforms of Fluvial origin

Alluvium terraces were formed along the Pennar River, Buggavanka, and streams in these areas. They create a flat land shape without significant natural elevation. The width of the alluvial plain varies from 1 meter to a few meters. At Siddavatam, thick black cotton soils are produced. The alluvium is either caramel or rosy in color, forming flat terraces. The alluvium contains topsoil and sandy soils at the base. Groundwater potential in this region is great

1.7.4 Landforms of Pediplain

It is a gently sloping incline with a gradient ranging from 2 to 50, formed by the impact of several pediments that eventually converge with major tributary streams and floodplains along the Pennar River. The pediment is the major landform in the area, extensively developed with numerous minor valleys cutting through the pediplain to form drainage networks. Weathered zones are present in Apparajupalli, Cuddapah, and Kottapalli regions. Most of the area under this unit is agricultural land. Groundwater prospects in this zone are moderate to good

1.7.5 Landforms of Structural Origin

Structural hills are shaped by a complex of erosional processes predominantly involving erosion, circumdenudation, weathering, and mass wasting. The dip of strata controls the rate of the denudation process in these structural hills. Structural hills are linear to arcuate hills exhibiting definite trends composed of varying lithology. They mostly cover the western, northern, and eastern parts of the study area, mainly composed of Pullampet formations. The structural trend of the hill ranges is in a northwest to southeast direction. The tectonic features are the result of structural deformation aided by superficial processes. Slope angles are very steep along the fault scarps. Generally, groundwater potential is very poor in structural hills owing to their poor permeability, where surface runoff is greater, and only limited groundwater potential is expected along the faults, joints, and fractures present in the structural hill ranges. Costa hill is a gently sloping hill surface of hard and compact Nagari quartzite running parallel to the dip of the bedding planes with an escarpment in the opposite direction cutting across the bedding planes. This type of landform, with a limited horizontal area, is observed in the south-western part of the study area. In general, the groundwater prospects in the cuesta hill region are very poor. Better groundwater prospects can be expected along the dip ward side of a cuesta.

1.7.6 Landforms of denudational origins

These include pediplain, pediment-inselberg complex, piedmont zone, and residual hills. The groundwater prospects are limited in shallow weathered pediplains and pediment-inselberg complexes, whereas groundwater prospects are moderate in moderately weathered pediplains.

1.7.7 Structural Features of Annamayya District

Lineaments are linear features of tectonic origin, identified as long, narrow, and relatively straight tonal alignments visible in satellite images. A lineament may be a fault, fracture, master joint, a long and linear geological formation, or the straight course of streams. Vegetation served may be the result of faulting and fracturing, and hence it is inferred that they are the areas and zones of increased porosity and permeability in hard rock areas. These have more significance in groundwater studies. Remote sensing data provides useful information to identify structural features and lineaments. The Cuddapah basin is a major synformal structure with minor antiforms and synforms. There are trend lines showing the strike directions of the rocks in the area. Many lineaments trend NE-SW and are roughly parallel to the trends of geological formations; other lineaments run either in an ENE-WSW or E-W direction.

Lineaments are the main features that control the occurrence of groundwater. Secondary porosity is imparted by joints and fractures in the areas of higher values of lineament density. The lineament density map reveals the variations of groundwater potentiality in the basin. The high lineament density is noticed as isolated patches with small areal extent in the central and western parts of the basin, indicating high groundwater potential, especially associated with shale with dolomitic limestones. Medium lineament density patches with limited areal extent indicate a moderate groundwater potential, distributed mostly in the central and as small patches in the western parts of the basin. A large part of the basin area is occupied by low lineament density, indicating poor groundwater potential, as shown in Figure-18

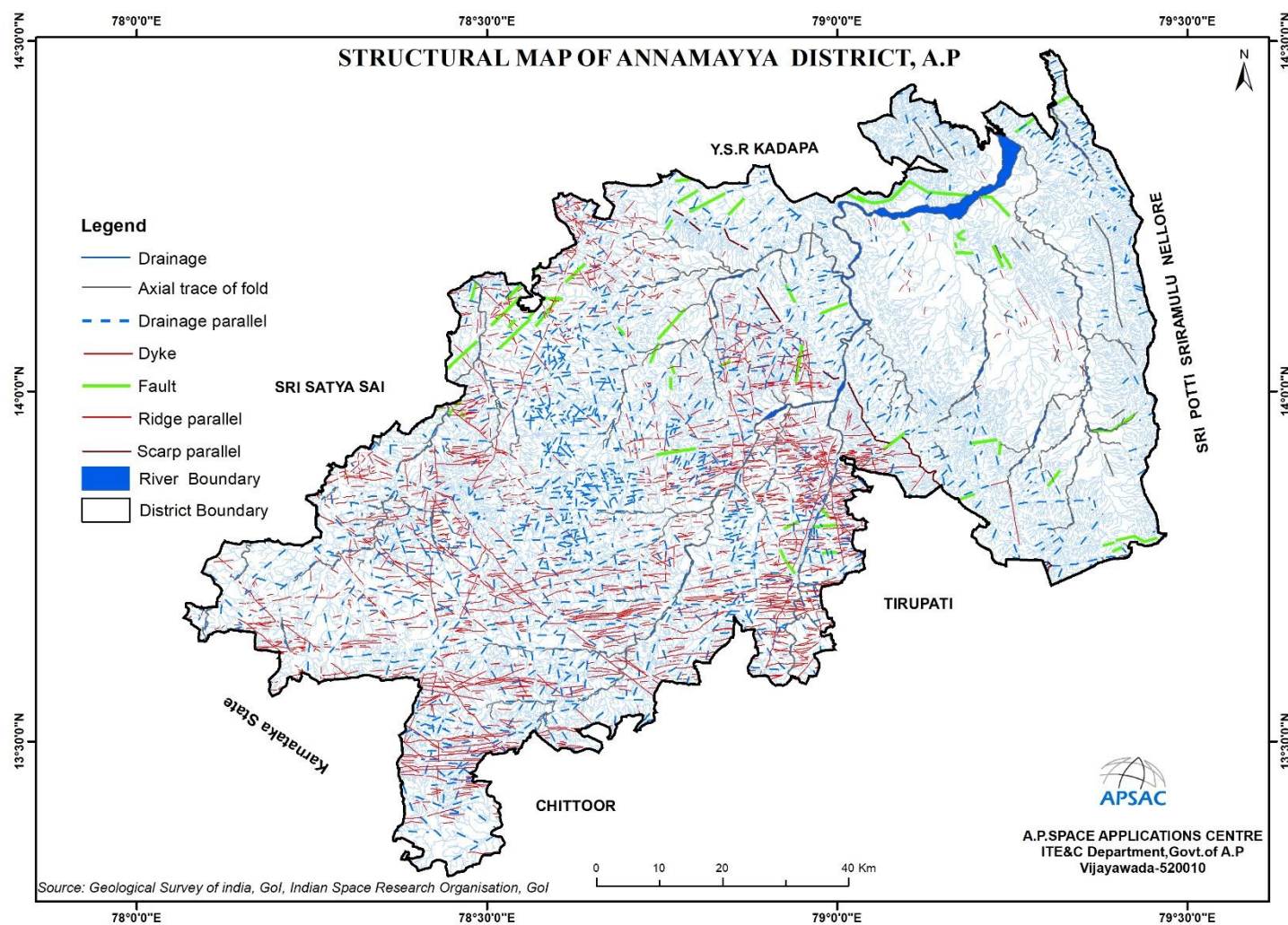


Figure-18 : Structural Map of Annamayya District, Andhra Pradesh

1.7.8 Ground Water Quality in Annamayya District

The groundwater quality laboratory analyzed physico-chemical parameters such as TDS, TH, Cl^- , NO_3 , pH, F, Fe, TA, and SO_4 using standard techniques. Groundwater quality samples were collected for two seasons, i.e., post-monsoon and pre-monsoon, from the Rural Water Supply and Sanitation Department (RWSSD) and compared with the BIS (2015) standards, in terms of desirable, permissible, and non-potable classes. Blue, yellow, and red colors indicate pre-monsoon quality, and +, ., - symbols indicate post-monsoon quality for desirable, permissible, and non-potable classes respectively.

From the analysis, it has been observed that groundwater is polluted in both pre-monsoon and post-monsoon seasons, with about 20% of the area falling under the non-potable category due to high concentrations of nitrate, fluoride, and iron. Approximately 50% of the area is in the potable category, while the remaining 30% of the area is covered by hills and water bodies throughout the entire district (see Figure-19). The occurrence and movement of groundwater in an area are governed by several factors such as topography, lithology, geological structure, depth of weathering, extent of fractures, drainage pattern, climate conditions, and the interrelationship between these factors (APSAC, 2017b)

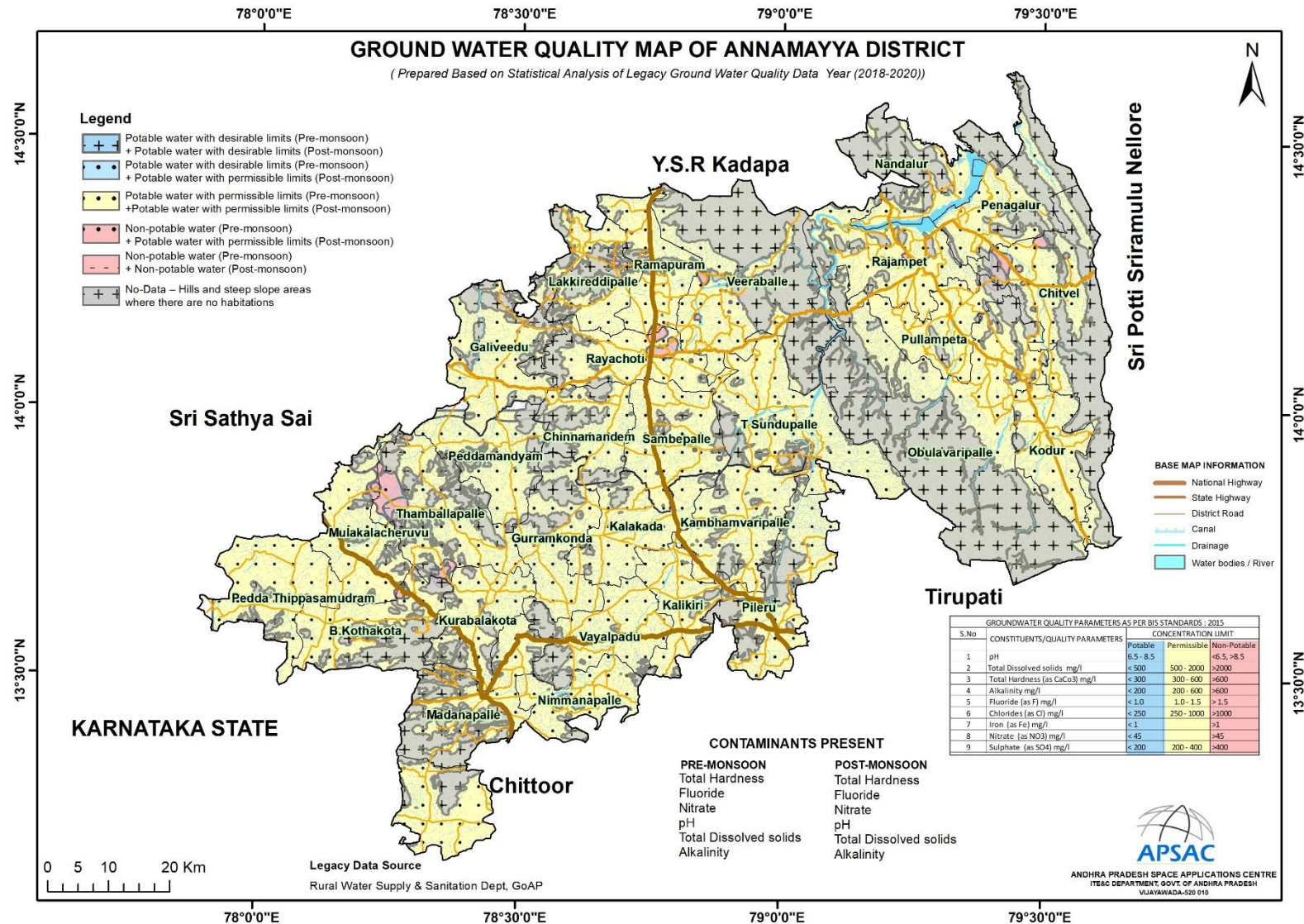


Figure-19: Ground Water Quality Map of Annamayya District

Chapter – II Minor Minerals

2.1 Overview of Mining Activity

The following leases exist in this Annamayya office jurisdiction. Mineral Regulatory, the important functioning of this office in these aspects are:-

- Achievement of Targets of Mineral Revenue collections being fixed to this office annually
- Receiving and processing of the Mineral Concession Applications duly conducting the technical inspection, Survey and demarcation of the Mineral bearing applied areas
- Execution and Regulation of the operations of the Mining / Quarry leases in accordance with the Acts and Rules
- Issuing of dispatch permits duly collecting the Advance Royalty / Seig.fee from the lease holders on the minerals produced and intend to dispatch from their leased areas through online permit system
- Controlling the illegal Mining / Quarrying and transportation by conducting the periodical inspections of the Mines and Quarries and also conducting the surprise vehicular checking and imposing the penalties
- Finalisation of Demand, Collection and Balance statements of the leases on annual basis

2.2 Geology of the District

Generalized Litho-stratigraphic Succession of Andhra Pradesh

Geological Time (a)	Supergroup (b)	Group (c)	Formation (d)
Holocene sands and soils	-	-	Alluvium, river terraces, beach
Pleistocene	-	-	Laterite and Gravel
Mio-Pliocene	-	-	Rajahmundry Fm.
Late Cretaceous Eocene	-	-	Deccan Trap with infra-and inter-trappeans
Lower Cretaceous to Upper Carboniferous	Gondwana	Upper Gondwana	Godavari Valley (Fluviatile) Chikiala Fm. Gangapur Fm. Coastal Area (Fluvio-marine) Tirupati Fm. (Vejendla Fm) Raghavapuram Fm. (Vemavaram),

		Lower Gondwana	Kota Fm. Maleri Fm.	Kandukuru, Sriperambadur Fms) Gollapalle Fm. (Satyavedu Fm.) Kamthi Fm. Barren Measures, Barakar Fm. Talchir Fm.
<hr/>				
		Cuddapah Basin		Pakhal Basin Sullavai Sandstone
Middle to Upper Proterozoic (980-500 m.y)			Nandyala Shale Koilkuntla Limestone	Putnur Limestone
	Kurnool		Panyam Quartzite Owk Shale Narji Limestone Banaganapalli Quartzite	Penganga Group Takalapalle Arkose
<hr/>				
			Srisailem Quartzite Cumbum Fm.	Alabaka Sandstone Lankavaram Shale Pattipalle Quartzite Polavaram Fm. Jakaram Arkose
Middle Proterozoic (1600-1300 m.y.)		Nallamalai	Mulug Group	
	Cuddapah	Chitravathi	Bairankonda Quartzite Gandikota Quartzite Tadipatri Fm.	Pandikunta Shale Gunjeda Dolomite
		Papaghni	Pulivendula Quartzite Mallampalli Group Vempalle Fm. Gulcheru Quartzite	Bayyaram Quartzite Bolapalle Fm.
<hr/>				
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EPARCHAEAN INTERVAL				
<hr/>				
Middle Proterozoic to	Eastern Ghats		Charnockite	Charnockite with megacrystic k-feldspar charnockite

Late Archean (2600-970 m.y)		Khondalites	Two pyrozone granulite / amphibolite Calc-silicate / granulite, Garnet- sillimanite-quartz- graphite gneiss (biotite-k-feldspar (Khondalite) Quartzite (gernet, sillimanite)
Late Archaean (2700 m.y)	Dharwar	Ramagiri- Penakacherla, Kolar, Kadiri, Gadwal- Narayanpet, Jonnagiri, Veligallu Peddavuru Schist Belts & W.Part of Nellore Belt.	Pyroclastic Rocks, local conglomerate / event conglomerate Metabasalt (Pillowed), Acid volcanics, minor andesite, dacite, rhyodacite, amphibolites, metaultramafics, minor quartzite, calcsilicates, phyllites, intrusives of basic rocks and granites, rare lamprophyres.
Middle Archaean (3100-2900 y.m)	Older Supracrustals (Sargur)	Eastern and Southern parts of Nellore.	High Grade schists include garnet, staurolite, kyanite, sillimanite, cordierite (rarely sapphirine- kornuopine as in Karimnagar) Mica schists, calcilicate rocks, crystalline limestone (minor). BIF, fuchsite quartzite, hornblende granulite, amphibolite, migmatite streaky biotite gneiss.
Gneissic Complex			Banded Tonalite- Trondhjemite Gneiss.

Geologically, the State of Andhra Pradesh forms a part of peninsular India and is one of the most ancient land masses. The geological formations of Andhra Pradesh range from the oldest to the recent.

The Sargur Supracrustals are the oldest rocks in Southern India, mostly present as enclaves within the migmatitic gneiss. These supracrustals are exposed in the eastern and southern parts of the Nellore schist belt. The lithology of Sargur mostly comprises garnet, staurolite, kyanite schists, BIFs, quartzites, granulites, and amphibolites. The gneissic complex comprises banded tonalite trondhjemite gneiss, which is the basement rock of the study area, along with migmatitic gneiss and biotite granite gneiss. TTGs are sodic, quartz-bearing granitic (plutonic) rocks with plagioclase as the most common feldspar and K-feldspar ranging from subordinate to nearly absent.

The Dharwarian rocks in Andhra Pradesh are exposed in the western part of the Nellore belt and in many other areas like Anantapur, Ramagiri-Penakacherla, Kolar, Kadiri, Gadwal-Narayanpet, Jonnagiri, Veligallu Peddavuru Schist Belts, and the western part of the Nellore Belt. The lithology mostly comprises metabasalt (pillowed), acid volcanics, minor andesite, dacite, rhyodacite, amphibolites, metaultramafics, minor quartzite, calc-silicates, phyllites, intrusives of basic rocks and granites, rare lamprophyres, as well as some pyroclastic rocks and local conglomerate/event conglomerate, defining hiatus in stratigraphy observed in the study area. Rocks of the Middle Proterozoic to late Archaean are exposed in the Eastern Ghats mobile belt, characterized by extremely high-grade metamorphism and falling under granulite metamorphic facies. They mostly include khondalites and charnockites. The metamorphic facies of rocks of the Eastern Ghats goes up to granulite facies. Charnockite with megacrystic K-feldspar, two pyroxene granulite/amphibolite, calc-silicate/granulite, garnet-sillimanite-quartz-graphite gneiss (biotite-K-feldspar), and quartzite (garnet, sillimanite) were exposed in most of the state.

The Cuddapah basin, a part of the Dharwar craton, is the second-largest purana basin of Peninsular India, marking the profound unconformity Eparchaen unconformity in early literature. The Cuddapah basin formation exposes rocks of late Proterozoic to upper Proterozoic. The basin is divided into four groups: Nallamalai, Chitravathi, Papaghni, and Kurnool. Papaghni comprises dolomite and limestones, Chitravathi comprises shale, dolomite, and quartzites, Nallamalai comprises shale, quartzites, and arkosic sandstones, and Kurnool comprises shales, quartzites, and limestones. The Cuddapah basin is characterized by a rhythmic pattern of quartzite-shale-carbonates cycle, with uraniferous limestone reported from the basin. The major exposures of purana rock formations were in Prakasam, Kurnool, Cuddapah, Chittoor, and Nellore. The Deccan Traps

are found in East and West Godavari districts, with exposures near Rajahmundry. Outcrops of Tertiary formations are found in East and West Godavari and Visakhapatnam districts, and the Quaternary sediments occur as thick blankets of alluvium in the river valleys, deltas, and along the East coast.

The Annamayya District is underlain by various rock types belonging to the Late Archaean or Early Proterozoic era, which are succeeded by rocks of Dharwarian Age, both traversed by dolerite dykes. The older rocks are overlain by rocks of the Cuddapah Supergroup and Kurnool Group belonging to the Middle and Upper Proterozoic Ages. The Cuddapah Sedimentary Basin, a huge depression formed over the denuded surfaces of older rocks extending into neighboring districts, occupies the major part of the district. The major rock types are quartzites, shales, limestones, phyllites, granites, granodiorites, and granite gneiss. The Archaean comprises the Peninsular Gneissic Complex, represented by granite, granodiorite, granite-gneiss, and migmatite, occurring in the southwestern part of the district. Both the Archaean and Dharwar are traversed by dolerite dykes and quartz reefs. Alluvium consisting of gravel, sand, silt, and clay occurs along the river courses in the district as shown in Figure-20.

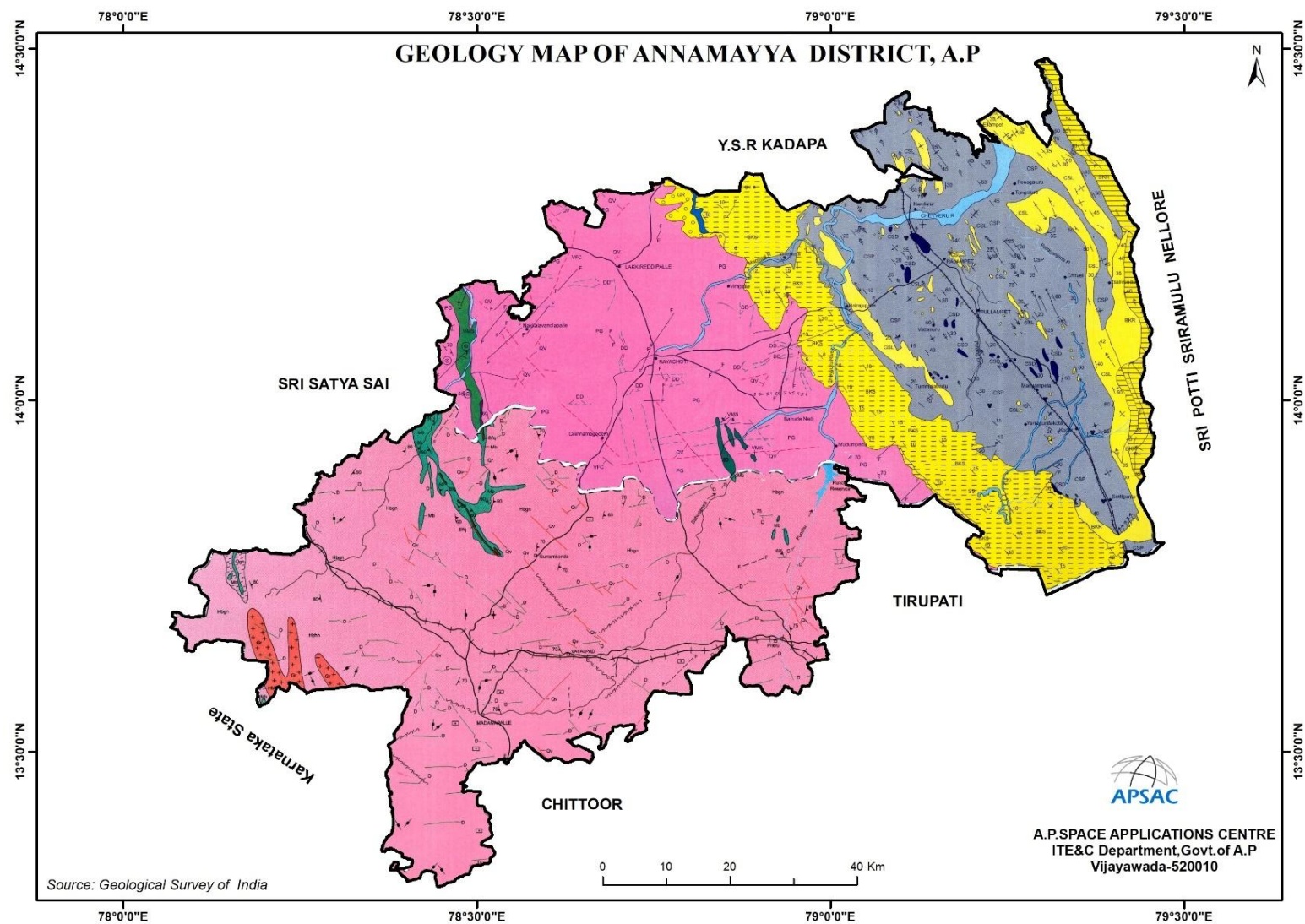
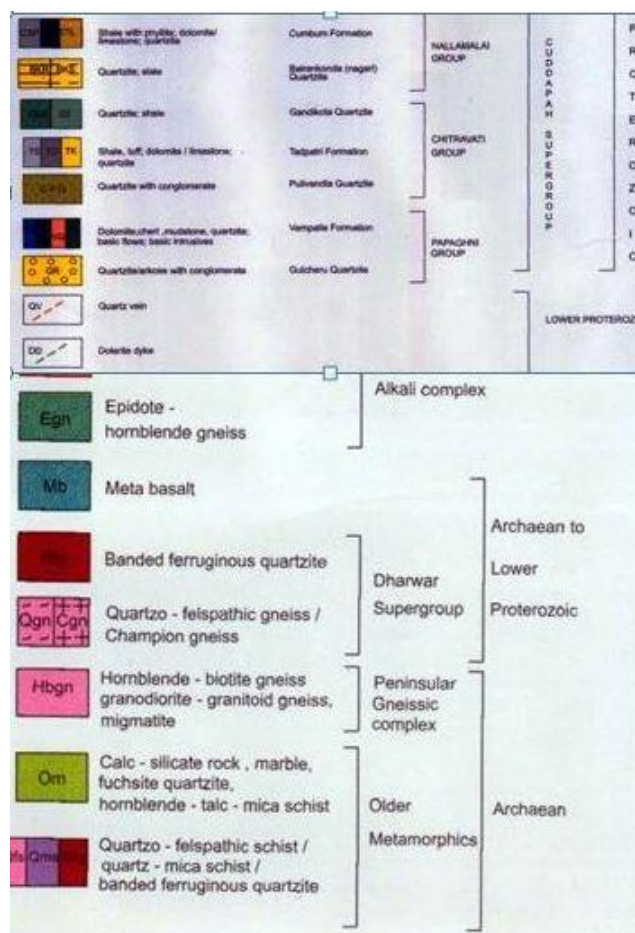


Figure-20: Geology of Annamayya District, Andhra Pradesh (Source: GSI, 2000)



Detailed Legend with Stratigraphic Sequence of Annamayya District

2.3 Minor Mineral Resources of Annamayya District:

The following minerals are available in Annamayya District.

2.3.1. Barytes: One of the largest barite deposits in the world occurs at Mangampeta, with the discovery of the world's largest bedded barytes deposit of volcanic origin at Mangampeta, Koduru mandal, Annamayya district. The barite deposit is unique because of its purity, high grade, and volcanogenic origin, confined to the tuffaceous sequence of the Pullampeta Formation of the Nallamalai Group of the Cuddapah Supergroup.

2.3.2. Clay: Superior-grade clay useful in ceramic ware and sanitary wares occurs in Hastavaram, Tallapaka, and Gadela villages of Rajampeta Mandal and Obulavaripalle Mandal. The clay deposits are confined to the Pullampeta formations of the Nallamalai Group of the Cuddapah Supergroup. Inferior-grade clay occurs in Chinna Orampadu, Anantarajupet, Nandalur, Chitvel, and Koduru. A variety of clay (Fuller's

earth) useful in detergent industries occurs in Venkanarri, Midamala, Chennakesavapuram, and Iruvegalapuram along the Sagileru River.

2.3.3. Quartz, Quartzites, Silica Sand: There are, in all, 32 mining leases over a cumulative extent of 878.255 ha in government land in Annamayya district. The mining leases fall in Rayachoty, Galiveedu, and Chakrayapeta, Obulavaripalle, and T.Sundupalli mandals of Annamayya.

2.3.4. China Clay: Superior-grade clay useful in ceramic ware and sanitary wares occurs in Hastavarm village of Rajampet. Huge deposits of white clay occur within the Pullampet formation in Gadela, Anantharajupet, Mangampet, Kodur, Nandalur, and Chitvel.

2.3.5. Pyrophyllite: Pyrophyllite ($\text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$) is a hydrous silicate of aluminum. It resembles talc in many physical and optical properties. The total reserves are estimated to be about 0.44 MT in Annamayya District as of 1.4.2010 (Source: National Mineral Inventory – an Overview of IBM). There are, in all, 7 mining leases over a cumulative extent of 250.35 ha in government land and 1.21 ha in Patta land in Annamayya district. The mining leases fall in Lakkireddypalli, Galiveedu, and Chakrayapet mandals of Annamayya District.

2.3.6. Black and Color Granite: Black and color granites occur in T.Sundupalli, Rayachoti, Galiveedu, Veeraballi, and Chakrayapet Mandals, and limestone/marble occurring in Pulluru and Putturu of Khajipet mandal are being used as dimensional stone because of their aesthetic appearance after cutting and polishing.

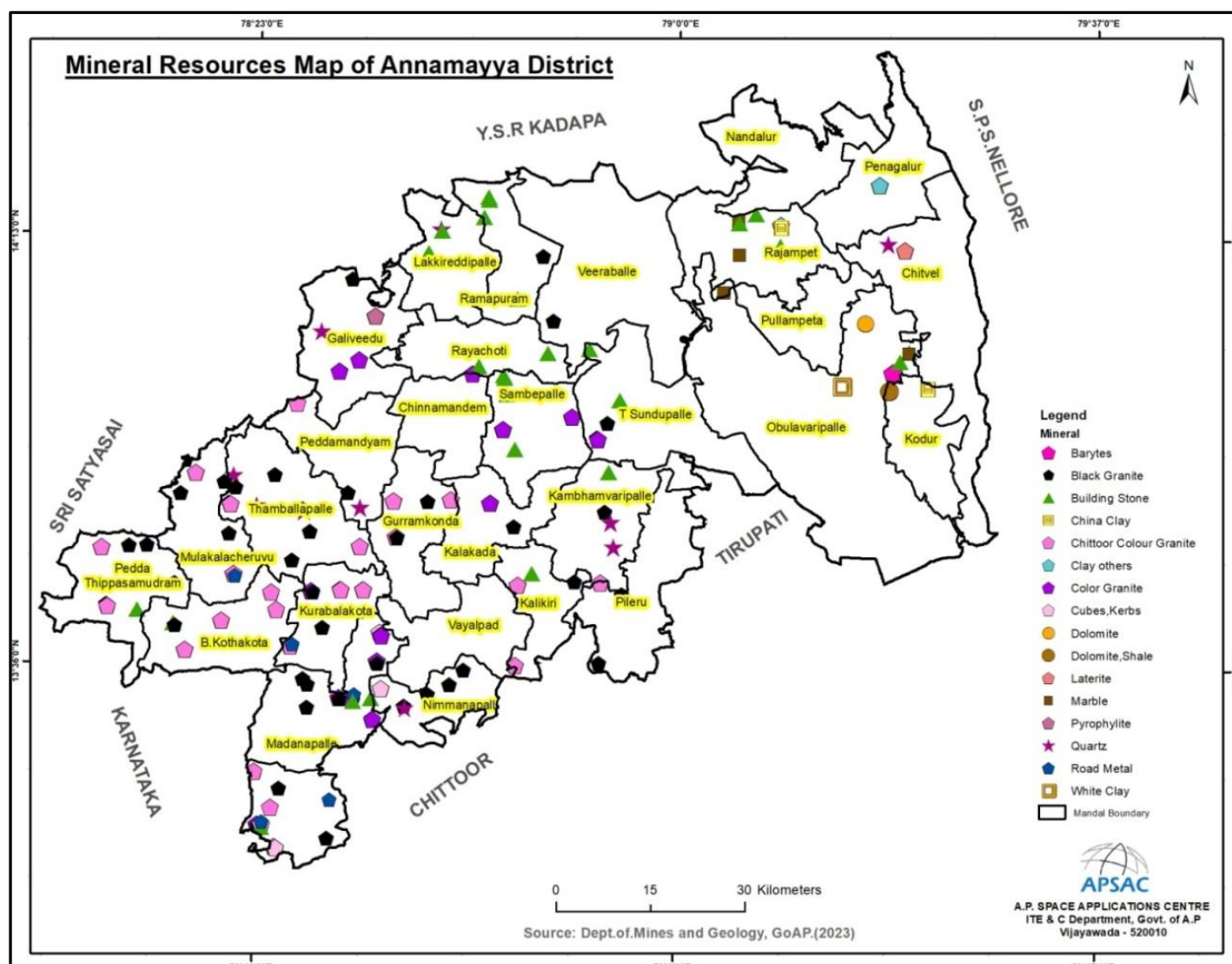


Figure-21: Mineral Resource Map of Annamayya District

The Detailed statement showing the Leases wise for Minor Minerals in Annamayya District in Table-14, List of Quarry Leases shown in Table-15 and the letter of intent is shown in Table-16.

Table 14 The List of Existing Quarry leases in the Jurisdiction of O/o the DM&GO, Rayachoty

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/N on-working/Temp. working for dispatch etc)	Captive/ Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude	Methof of Mining (Opencast/ Underground)
						From	TO	From	TO						
1	Colour Granite	M/s Sri Sai Rocks, Prop: Sri V. Ravi	D.No. 19-240/21, Near Vignana Deepthi High School, Chittoor, Ph.No.9440206102	1347/ADC/R4-2/2002, Dt. 10.04.02	1.000	18/04/2002	17/04/2022	--	--	18/04/2002	W (Renewal filed)	Non-captive	No	N 13°50'09.0" E 78°39'04.4"	Open Cast
2	Colour Granite & DMS	M/s Archean Granites (P) Ltd., New Court Road, Kuppam	New Court Road, Kuppam Ph.No.8332805629	17976/R4-2/2003, Dt.30.04.2004	2.330	23/06/2004	22/06/2024	--	--	23/06/2004	Working	Non-captive	No	N 13°43'1.48155" E 78°52'47.12891"	Open Cast
3	Black Granite	M/s Selvam Granites, Mg. Ptr: Sri D. Anandara ju, S/o P. Dharman	30/14-A, Kaveri Nagar, Sottiyar Street, Suramangalam, Salem - 5, Tamilnadu State Ph.No.9952828252	4114/R4-1/2014, Dt. 23.08.2014	1.000	18/09/2014	02/04/2027	--	--	18/09/2014	Non working	Non-captive	No	N 13°41'.950" E 78°55'501"	Open Cast
4	Colour Granite	M/s TIRUPAT HI MINERAL S, Mg. Ptr: Sri Vikas Kothari	103 Heritage - 4, Vibhutipura, Basavanagar, Bangalore - 37, Karnataka Ph.No.9343434355	28208/R5-1/2009, Dt.23.07.2009	2.500	11/08/2009	10/08/2029	--	--	11/08/2009	Non working	Non-captive	No	N 13°50'10.2" E 78°36'18.6"	Open Cast
5	Colour Granite	Sri M. Pawan Kumar Reddy	No. 452/3/16, 27th Cross, 4th Block, Jayanagar, Bangalore - 560 011 Ph.No.8886917969	3229/R5-1/2011, Dt.10.05.2012	3.000	25/09/2012	24/09/2032	--	--	25/09/2012	Non working	Non-captive	SEIAA/AP/CTR-222/2013-5389, DT. 25.10.2013	N 13°50'17.98501" E 78°36'29.97873"	Open Cast
6	Colour Granite	M/s Simha Granites,	D.NO. 1-33, 3rd Street, Kattamanchi, Chittoor Ph.No.9701100860 (37432/R5-1/2011, Dt.25.04.13	4.000	14/06/2013	13/06/2033	--	--	14/06/2013	Working	Non-captive	SEIAA/AP/CTR-49/2013, Dt. 10.04.13	N 13°50'06.7" E 78°42'36.2"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temporary working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Method of Mining (Open cast/Underground)
						From	TO	From	TO						
		Prop: Sri P. Rukmangadha	New No. 8465064071)												
7	Colour Granite	Sri V. Surendra Babu	D.No. 58-8-14, Hotel Rajadhani, Trunk Road, Ongole, Prakasam (Dt) Ph.No.9177262779	32996/R5-1/2012, Dt.18.10.2013	2.000	07/11/2013	06/11/2033	--	--	07/11/2013	Working	Non-captive	SEIAA/AP/CTR-102/2013-2376, Dt.10.07.2013	N 13°44'40.81072" E 78°34'19.36972"	Open Cast
8	Colour Granite	M/s R.R.K. Granites, Prop: Sri R. Rakesh Kumar	Kammathimmapalli (V), 197.Ramapuram (Po), Gudipala (M), Chittoor (Dt) Ph.No.9440492091 (New No. 8465064071)	28126/R4-1/2012, Dt.14.05.2015	4.000	03/06/2015	02/06/2035	--	--	03/06/2015	Working	Non-captive	SEIAA/AP/CTR/370/2014-1302, Dt. 28.01.2015	N 13°50'07.5" E 78°42'41.8"	Open Cast
9	Black Granite	M/s Om Sri Vinayaka swamy Granites, Ptr: Sri S. Lokaiah,	Vaddikandriga Village, N.R. Puram Post, S.R. Puram Mandal, Chittoor (Dt) Ph.No.9441775953	16123/R4-1/2013, Dt. 14.05.2015	2.000	09/07/2015	08/07/2035	--	--	09/07/2015	Working	Non-captive	SEIAA/AP/CTR-165/2013-4489, Dt. 23.10.2013	N 13°35'45.96283" E 78°54'53.3125"	Open Cast
10	Black Granite	M/s Lorven Granites, Proptx. Smt. P. Roja Rani	18-1-762, PS Complex, Bhavani Nagar, Tadipatri, Ananthapuram-517501 Ph.No.9395390999	10533/R5-1/2015, dt. 08-06-2018	2.590	02/08/2018	01/08/2038	--	--	02/08/2018	Working	Non-captive	DEIAA/AP/CTR-50/2017-53, dt. 14-12-2017	N 13°42'28.95" E 78°39'22.80"	Open Cast
11	Black Granite	Smt. O. Latha Sudhakar Goud, W/o Sudhakar Goud	Flat No.202, Swapnalok Apartment, Prakash Nagar, Kurnool Ph.No.9440554630	19433/R5-1/2017, dt. 30-04-2018	2.000	28/06/2018	27/06/2038	--	--	28/06/2018	Non working	Non-captive	DEIAA/AP/CTR-138/2018-138, DT. 03-04-2018	N 13°41'36.9" E 78°54'20.7"	Open Cast
12	Black Granite	M/s Grace Granites, Mg.Pt. B. Ruban	No. 45/2, II Cross, Subbannachari Galli, Cottonpet, Bangalore-560053 Ph.No.8985864228	49420/R5-1/2013, dt. 06-02-2019	5.000	02/04/2019	01/04/2039	--	--	02/04/2019	Working	Non-captive	SEIAA/AP/CTR-415/2015-839, Dt. 11.05.2015	N 13°35'52.3" E 78°54'10.8"	Open Cast
13	RM&BS	M/s Radhakrishna Stone Crusher,	D.No. 1-151/9-1, Maruthi Nagar, Opp. Girls High School, Piler (V,Po & M), Chittoor District	1869/Q1/2020, dt. 17-10-2022	1.998	29/12/2022	28/12/2032	--	--	29/12/2022	Working	Non-captive	SEIAA/AP/CTR/MI N/7/2021/3298/169.02/166.01, Dt. 06-01-2022	N 13°41'06.45851" E 78°58'54.25826"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temp. working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Method of Mining (Opencast/Underground)
						From	TO	From	TO						
		Proptx. Smt. C. Rajitha	Ph.No.9908857971												
14	Grey Barytes	M/s APMDC Ltd.	294/1D, 100 Feet Road, Kanuru-Nidamanuru Road, Tadigadapa, Vijayawada Ph.No.9490167247	5610/D12-1/2018 20-02-2020	225.014			02/09/2018	01/09/2038		Working	Non-captive	J-11015/582/2007-IA.II(M), Dt:30-12-2008	N 14°01'09.912" E 79°19'11.136" N 14°01'08.45" E 79°19'09.62"	Open Cast
15	RM&BS	N.Harindha	D.No. 1/26, Nallaguttapalli Village, Ramapuram Mandal, Annamayya District Ph.No.9849198879	1848/Q/2008	2.010	22-11-2008	21-11-2018	--	--	22-11-2008	Non working	Non-captive	No	N 14°16'16.94821" E 78°41'44.37149"	Open Cast
16	Black Granite	M/s Prasanthi Granites, Prop: P.Venugopal Reddy	87/1175-4, Revenue Colony, KNL-Camp-B, Kurnool Ph.No.9618773871	41044/R5-2/2006, Dt:23-03-2007	1.364	28-06-2008	27/06/2028	--	--	28-06-2008	working	Non-captive	SEIAA/AP/KDP/MI N/11/2021/3606/175.76/172.54, dt:08-03-2022	N 14°49'56.66914" E 79°00'28.41249"	Open Cast
17	Colour Granite	K. Aswartha Reddy	Sarvarajupeta (Colony) V.N.Palli Village & Mandal Ph.No.9491420579	10671/R5-2/2008, dt.10-06-2008	2.000	29-07-2008	28-07-2028	--	--	29-07-2008	Non working	Non-captive	No	N 14°03'30.375" E 78°33'39.276"	Open Cast
18	Marble	Y.B. Amarnadh Reddy	H.No.1-197C, RTC Request Stop Line, NSP Colony, Chimakurthy Mandal, Prakasam District Ph.No.9502942423	21712/R5-2/2012, Dt.06-07-2016	5.765	31-05-2010	30-05-2030	--	--	31-05-2010	Non working	Non-captive	SEIAA/AP/KDP-42/2013-2385, Dt.10-07-2013	N 14°08'34.99351" E 79°05'05.05218"	Open Cast
19	Black Granite	M/s Amman Granites, M.Rama Swamy	M.G.Colony, Harur, Dharampuram Ph.No.9840173565	29182/R5-2/2010, Dt:02-04-2012	4.000	03/05/2012	02/05/2032	--	--	03/05/2012	Non working	Non-captive	No	N 13°57'07.7" E 78°51'13.2"	Open Cast
20	RM&BS	M. Yella Reddy	D.No. 12/155-4, Kuppurivaripalli Village, Kamalapuram Mandal, Y.S.R. District Ph.No.90004614917702385959	3110/Q/KDP/2012, Dated: 24-09-2012	3.413	29/09/2012	31/03/2023	01/04/2023	31/03/2033	29/09/2012	Working	Non-captive	SEIAA/AP/KDP/MI N/01/1643/2020/170.49/167.51, DT:19-01-2022	N14°16'23.00511" E78°44'51.19894"	Open Cast
21	Pyrophyllite	K.John Karunaka	Flot No. 105, Kandula Residency, Near DCC	G.O.Ms.No.48, I&C (M.III)	23.906	03/05/2012	02/05/2032	--	--	03/05/2012	Non working	Non-captive	No	N 14°03'21.2" E 78°34'13.4"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temporary working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Method of Mining (Open cast/Underground)
						From	TO	From	TO						
		r	Bank, Rajareddy Street, Kadapa Ph.No.9676426791	Dept, Dt:25-02-2012.											
22	RM&BS	G.Chandra Sekhar Reddy	H.No.45-402/1B, Balaji Nagar, Kadapa Ph.No. 9440450387	253/Q/KDP/2013, dt:30-03-2013	0.956	17/07/2010	16/07/2025	--	--	17/07/2010	Working	Non-captive	SEIAA/AP/KDP/MI N/9/3476/2021/174.09/171.08, dt:05-03-2022	N 14°14'29.50312" E 78°43'32.78386"	Open Cast
23	RM&BS	M/s Royal Mineral	D.No:2/235, Kapupalli Village, Mangampeta Post, Obulavaripalli Mandal, Y.S.R. District Ph.No.9441561962	4179/Q/KDP/2014 dt:23-01-2014	1.214	26-10-2012	25-10-2027	--	--	26-10-2012	Non working	Non-captive	No	N 14°01'55.59471" E 79°19'44.92475"	Open Cast
24	Black Granite	M/s OM Granites, Prop: Sri D. Ravi Shankar Reddy	Chavanagayapalli Village, R.S.Kondapuram Mandal, Y.S.R. District Ph.No. 9441051381	12077/R5-2/2013 dt.11-02-2014	3.000	09/04/2014	08/04/2029	--	--	09/04/2014	Non working	Non-captive	SEIAA/AP/CDP/2013-3218 Dt.21-08-2013	N 14°01'13.2" E 78°41'13.7"	Open Cast
25	RM&BS	M/s Royal Minerals, Prop: Sri G.Harinata Reddy	D.No:2/235, Kapupalli Village, Mangampeta Post, Obulavaripalli Mandal, Y.S.R. District Ph.No.9441561962	4180/Q/KDP/2013 dt.23-01-2014	2.000	15-03-2014	14-03-2029	--	--	15-03-2014	Non working	Non-captive	No	N 14°01'55.92801" E 79°19'45.40441"	Open Cast
26	RM&BS	M/s Praise Minerals	Mangampeta Village, Obulavaripalli M, Annamayya Dist Ph.No.9866250594	1523/Q/Kadapa/2015, dt:16.04.2015	2.000	7/6/2015	7/5/2025	--	--	7/6/2015	Non-Working	Non-captive	No	N 14°02'07.15037" E 79°19'49.25175"	Open Cast
27	RM&BS	M/s Sneha Mineral Stone Crushers, Mg.Ptnr: Sri G.Chenna Rayudu	D.No.9/162D, Near Post Office Lane, Laxmi Nagar, Railway Kodur, Ph.No.9949095911	2446/Q1/2019 Dt.27-11-2021	4.024	11/02/2018	10/02/2033	--	--	11/02/2018	Working	Non-captive	SEIAA/AP/KDP/MI N/09/2109/2020/167.68/164.61 dt.26-10-2021	N 14°01'53.77682" E 79°19'25.71603"	Open Cast
28	Marble	L.Amara Chandrashekhar Reddy	H.NO.4-2-21, Near Maruthi Street, Ankalammapeta, Pulivendula, Ph.No. 8985899998	21712/R5-2/2012, Dt:06-07-2016	7.781	23-07-2016	22-07-2036	--	--	23-07-2016	Non working	Non-captive	SEIAA/AP/ KDP-99/2015, Dt:08-02-2016	N 14°11'04.8" E 79°05'57.6"	Open Cast
29	Colour Granite	M/s Simha	D.NO.1-33, 3rd Street, Kattamanchi, Chittoor	10172/R5-2/2014,	14.633	17-05-2016	16-05-2036	--	--	17-05-2016	Non working	Non-captive	SEIAA/API KDP-94/2015,	N 14°01'25.1" E 78°41'04.0"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temp. working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/Underground)
						From	TO	From	TO						
		Granites, Prop: Rukmang adha	District Ph.No. 8465064071	Dt:23-03-2016									Dt:09-10-2015		
30	Colour Granite	M/s C.T.P. Granites & Exports	D.No.2/309-A, Harini Arcade, Vadavalli, Coimbatore, Tamilnadu State Ph.No. 9842811397	10170/R5-2/2015, Dt:17-04-2016	7.152	19-08-2016	18-08-2036	--	--	19-08-2016	Working	Non-captive	SEIAA/AP/KDP-97/2015, Dt:15-10-2015	N 14°1'29.89306" E 78°41'11.07434"	Open Cast
31	Colour Granite	M/s Sree Siddivina yaka Minerals	D.No.5/88, Kota Gadda Street, Kadapa, Ph.No.8897925779	33498/R5-2/2005, Dt:14-07-2016	5.000	19-09-2016	18-09-2036	--	--	19-09-2016	working	Non-captive	SEIAA/AP/KDP-107/2015, Dt:08-02-2016	N 13°56'47.4" E 78°43'14.5"	Open Cast
32	Marble	M/s B.R.Mine s & Minerals	D.NO.303, Punyas Residency, Spiring Field Colony, Jeedimetla, Secunderabad Ph.No. 9912399799	16985/R5-2/2015, Dt:04-06-2016	3.984	28-07-2016	27-07-2036	--	--	28-07-2016	Non working	Non-captive	SEIAA/AP/KDP-102/2015, Dt:12-11-2015	N 14°04'12.31752" E 79°19'23.21648"	Open Cast
33	Colour Granite	M/s C.T.P. Granites & Exports	D.No.2/309-A, Harini Arcade, Vadavalli, Coimbatore, Tamilnadu State Ph.No. 9842811397	10170/R5-2/2015, Dt:17-04-2016	4.615	10/06/2016	09/06/2036	--	--	10/06/2016	Working	Non-captive	SEIAA/AP/KDP-96/2015, Dt:15-10-2015	N 14°1'32.24185" E 78°41'07.75668"	Open Cast
34	RM&BS	M/s. Krishna Veni Metals transferr ed to M/s Murali Metal Industrie s, Mg.Ptnr: Sri Y.Muralid har Reddy	D.No.101-150-46, Viswanathapuram, Kadapa Ph.No.9177779999	1643/TQL/2023, 01-07-2023	12.999	12/05/2017	11/05/2032	--	--	12/05/2017	Working	Non-captive	SEIAA/AP/Kadapa /MIN/09/2016/208, Dt:31-10-2016	N14°11' 54.66352" E78°37'41.71494"	Open Cast
35	Black & Colour Granite	Smt.P.Bh aya Lakshmi	D.No.6-7-567/301, Sripuram Colony, Tirupati, Ph.No.9703577779	1418/R5-2/2017, Dt:16-10-2017	3.000	24-10-2017	23-10-2037	--	--	24-10-2017	Non working	Non-captive	DEIAA/AP/KDP/2017-40, Dt: 03-08-2017	N13°51'34.4" E78°45'38.6"	Open Cast
36	RM&BS	R. Ramesh Kumar	D.No.11/16, Reddivaripalli Village, L.R.Palli Mandal,	4838/Q1/2016 dt.29-06-2017	4.760	25-09-2017	24-09-2027	--	--	25-09-2017	Working	Non-captive	DEIAA/AP/KDP/2017-18, Dt:17-04-2017	N 14°08'03.4603" E 78°43'26.2713"	Open Cast

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						From	TO	From	TO						
		Reddy	Ph.No.9581069069												
37	Colour Granite	M/s AS Granites, Prop: MR Sunil (Transferred from M/s Sri Sai Balaji Rocks)	H.No.8-46/1, D.R.Krishna Street, Sai Nagar, Gangavaram Mandal, Chittoor District Ph.No.9849182444	39707/R5-2/2010, Dt:18-10-20172688/D12-1/2023, Dt:07-03-2023	2.700	24/10/2017	23-10-2037	--	--	24/10/2017	Working	Non-captive	DEIAA/AP/KDP/2017-38, Dt:3.08.2017	N 13°57'19.86545" E 78°51'23.22466"	Open Cast
38	Black Granite	M/s Swarna Enterprises	D.No.12-330, Porumamilla, 5-12 Blocks, Porumamilla (M), YSR Dist Ph.No.9949511151	33446/R5-2/2012, Dt:28-06-2017	4.900	08/08/2017	07/08/2037	--	--	08/08/2017	Working	Non-captive	DEIAA/AP/KDP/2017-20, Dt:17-04-2017	N 13°56'41.2" E 78°53'59.5"	Open Cast
39	Colour Granite	M/s Simha Granites, Prop: Rukmangadha	D.NO.1-33, 3rd Street, Kattamanchi, Chittoor District Ph.No. 8465064071	18880/R5-2/2015, Dt:07-11-2017	10.000	30-12-2017	29-12-2037	--	--	30-12-2017	Working	Non-captive	SEIAA/AP/KDP/MI N/01/2017/17, Dt.15-07-2017	N 13°50'06.7" E 78°42'36.2"	Open Cast
40	RM&BS	M/s SVS Minerals, Prop: Galla Sreenivasulu	9/189, Lakshmi Nagar, Post Office Lane, Rly.Kodur Ph.No. 9441745469	931/Q1/2017, dt:19-01-2018	4.957	17/02/2018	16/02/2028	--	--	17/02/2018	Non Working	Non-captive	DEIAA/AP/KDP/2017-45, dt:15-11-2017	N 14°02'13.6" E 79°19'55.8"	Open Cast
41	Quartz	Shaik Khader Bee (Shaik Khader Basha)	D.No.7/934, Dastagirijunda, Kadapa Ph.No. 9885732832	14766/R5-2/2009, Dt:02-11-2017	11.295	05/03/2018	04/03/2038	--	--	05/03/2018	Non working	Non-captive	SEIAA/AP/KDP-29/2012-1068, Dt: 20-06-2012	N 14°12'39.98" E 78°40'39.79"	Open Cast
42	RM&BS	G.Sudeep Kumar Reddy	Yerramreddygaripalli Village, Ramapuram Mandal 9440424063	327/Q1/2017, Dt:20-01-2018	2.000	12/04/2018	11/04/2028	--	--	12/04/2018	Non Working	Non-captive	DEIAA/AP/KDP/2017-46, Dt:15-11-2017	N 14°15'05.2" E 78°43'06.1"	Open Cast
43	Black & Colour Granite	P.Balakrishnan	D.No.197, Ramapuram, Gudipala, Chittoor Dist Ph.No.9441923569	10061/R5-2/17, Dt:19-01-2018	3.520	06/03/2018	05/03/2038	--	--	06/03/2018	Working	Non-captive	DEIAA/AP/KDP/2017-44, Dt:15-11-2017	N 13°53'52.7" E 78°53'48.1"	Open Cast
44	Colour Granite	M/s SN Granites	D.No.68/11, SR Highline, Doddaiyah Layout, 3rd Line, Jogupalya, Ulsoor, Bangalore	31674/R5-2/2018, Dt:13-06-2018	2.827	02/07/2018	01/07/2038	--	--	02/07/2018	Working	Non-captive	DEIAA/AP/KDP/2017-18 (65), Dt:30-04-2018	N 13°53'58.6" E 78°53'47.8"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temp. working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/Underground)
						From	TO	From	TO						
			9846872233												
45	Clay	M/s Sri Sowmya natha Swamy Mines, Prop:Gsu resh	H.No.3-27, Bramhana Street, Nandalur Village & Mandal, YSR Dist Ph.No. 9885073213	18261/R5-2/2017, Dt:04-06-2018	3.690	30-06-2018	29-06-2038	--	--	30-06-2018	Working	Non-captive	DEIAA/AP/KDP/2017-18 (61), Dt:30-04-2018	N 14°16'23.4" E 79°08'06.8"	Open Cast
46	Quartz	M/s Saritha Mines & Minerals	H.No.1-New House, Yellatur Village, Pendlimarri Mandal, YSR Dist 9550033179	20258/R5-2/2016, Dt:08-06-2018	2.428	04/08/2018	03/08/2038	--	--	04/08/2018	working	Non-captive	DEIAA/AP/KDP/2017-18 (58), Dt:30-04-2018	N 14°14'16.8" E 79°19'22.3"	Open Cast
47	Colour Granite	M/s Star Granites, Mg.Ptnr: Sri D.Jaya Nagendra Kumar	H.No.24/1248, Proddatur Road, Jammalamadugu, Ph.No. 9000420644	3402/R5-2/2017, Dt:17-08-2018	3.505	28/09/2018	27-09-2038	--	--	28/09/2018	Working	Non-captive	DEIAA/AP/KDP/2017-18(60), Dt:30-04-2018	N 13°56'56.9" E 78°43'32.4"	Open Cast
48	Dolomite & Black Shale	M/s APMDC Ltd.	294/1D, 100 Feet Road, Kanuru-Nidamanuru Road, Tadigadapa, Vijayawada Ph.No.9490167247	4020/R5-2/2018, Dt:27-10-2018	221.890			29-11-2018	28-11-2038		Non working	Non-captive	J-11015/157/2016-1A.II(M), dt:29-08-2018	N 14°01'01.272" E 79°18'50.328" N 14°01'30.432" E 79°18'46.764"	Open Cast
49	RM&BS	K.Rajasekhar Reddy	H.No.5/16, Venkatrampalli Village, C.K.Dinne Mandal, YSR Dist Ph.No. 9704406506	5487/Q1/2017, dt:22-12-2018	4.800	09/01/2019	08/01/2029	--	--	09/01/2019	Working	Non-captive	DEIAA/AP/KDP/2018-19/84, Dt:18-11-2018	N 14°16'40.7" E 78°42'03.5"	Open Cast
50	RM&BS	K.Chandrasekar Reddy	H.No.2/24, Venkatarampalli Village, C.K.Dinne Mandal, YSR Dist Ph.No. 9701724800	4741/Q1/2017, dt:22-12-2018	3.374	09/01/2019	08/01/2029	--	--	09/01/2019	Working	Non-captive	DEIAA/AP/KDP/2018-19/90, Dt:18-11-2018	N 14°16'28.6" E 78°41'30.8"	Open Cast
51	Quartz	G.Chinnapulla Reddy	D.No.1/285, Kothapalli Village, Pendlimarri Post & Mandal, YSR Dist Ph.No. 9949902841	20529/R5-2/2016, dt:05-02-2019	2.933	03/04/2019	02/04/2039	--	--	03/04/2019	Working	Non-captive	DEIAA/AP/KDP/2018-19/82, Dt:18-11-2018	N 14°03'05.6" E 78°28'17.4"	Open Cast
52	Quartz	M/s G.P.R.Mines & Minerals	D.No.1/285, Kothapalli Village, Pendlimarri Post & Mandal, YSR Dist Ph.No. 9949902841	32137/R5-2/2016, dt:05-02-2019	2.000	03/04/2019	02/04/2039	--	--	03/04/2019	Working	Non-captive	DEIAA/AP/KDP/2018-19/83, Dt:18-11-2018	N 14°15'12.74517" E 78°36'54.58651"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temp. working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/Underground)
						From	TO	From	TO						
53	RM&BS	N.Siva Reddy	D.No.14/2, Moodinlapalli, B.Yerragudi Village, Lakkireddypalli Mandal, Ph.No.9494566966	1251/Q3/2017-2, dt.08-01-2019	2.770	04/04/2019	03/04/2029	--	--	04/04/2019	Working	Non-captive	DEIAA/AP/KDP/2018-19/88, Dt:18-11-2018	N 14°14'13.1" E 78°38'25.4"	Open Cast
54	RM&BS	M/s G.J.R. Stone Crusher	8686030303	197/Q1/2018-2, dt.12-07-2019	1.480	16-11-2019	15-11-2029	--	--	16-11-2019	Working	Non-captive	DEIAA/AP/KDP/2018-19/80, DT:18-11-2018	N 14°16'38.1" E 78°43'22.5"	Open Cast
55	RM&BS	Ms. Siva Sai Stone Crushers	D.No.1/440-15-7, Road No.1, Maruthi Nagar, Kadapa, YSR Dist Ph.No. 9440894602	4516/Q1/2008, dt.09-01-2020	2.636	22/01/2020	21-01-2035	--	--	22/01/2020	Working	Non-captive	SEIAA/AP/KDP/MI N/09/2019/1231-1469, dt.25-11-2019	14° 14' 04.72341"N 78° 40' 00.67345"E	Open Cast
56	RM&BS	M/s Nallagan gammathalli Stone Crushers	D.No.20/720-1, Co-operative Colony, Kadapa Ph.No. 8555036485	4273/Q1/2018, dt.27-04-2020	4.000	07/05/2020	06/05/2030	--	--	07/05/2020	Working	Non-captive	SEIAA/AP/KDP/MI N/08/2019/1215-1462, dt. 25-11-2019	N 13°55'59.42012" E 78°46'24.45012"	Open Cast
57	RM&BS	Choppa Venkata Reddy	D.NO.1/44, H.Kothapalli Village, Rajampet Mandal, Ph.No. 9849085555	1520/Q1/2019-(2), dt.30-12-2019	3.497	24-01-2020	23-01-2030	--	--	24-01-2020	Working	Non-captive	SEIAA/AP/KDP/MI N/08/2019/1138-1057, dt.17-09-2019	N 14°11'09.42601" E 79°06'12.16292"	Open Cast
58	RM&BS & Gravel	Smt. V.Sumalatha (Successor of V.Siva Kumar Reddy)	D.No. 1/154-A, Bhadrireddy Street, Pothapi Village, Nandalur Mandal Ph.No. 9849085555	1864/Q1/2019, dt.06-02-2020	4.939	02/05/2020	01/05/2030	--	--	02/05/2020	Non working	Non-captive	SEIAA/AP/KDP/MI N/07/2019/1411-148 dt. 07-01-2020	N 14°16'43.75472" E 78°42'03.38102"	Open Cast
59	RM&BS	Sri P. Sudhakar	D.No.9/377-G-1, Annamailah Nagar. Opp: Veternary Hospital, Mannur, Rajampet (M), 9989933483	3844/Q3/2018, dt. 07-07-2020	2.680	07/07/2020	06/07/2030	--	--	07/07/2020	Non Working	Non-captive	SEIAA/AP/KDP/MI N/04/2019/957-26 dt.18-12-2019	N 14°02'13.64707" E 78°55'49.96222"	Open Cast
60	Clay	M/s Dharanidhara Mines and Micro Minerals, Mg.Ptr Sri C.	D.No.41/1225-1, Bhagyanagar Colony, Kadapa, 9059993656 9440246662	2250/D12-1/2018, dt.10-11-2020	5.000	02/12/2020	01/02/2040	--	--	02/12/2020	Working	Non-captive	SEIAA/AP/KDP /MIN/11/2019/1425/248, dt.11-02-2020	N 14°14'22.4" E 79°07'46.3"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/N on-working/Temp. working for dispatch etc)	Captive/ Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/ Underground)
						From	TO	From	TO						
		Subba Reddy													
61	Colour Granite	M/s Indian Granites Transferred from M/s DAP Granites, Mg.Ptr. Sri Promod Nellore	255/N&O, 3rd Floor, B.S.K. 6th Street, 3rd Block, 100 Feet Road, Chikkegowdapalya, Thalagattapura, Bangalore, Ph.No.8096747747	2249/R5-2/2018, dt.26.11.2019	3.983	31-10-2020	30-10-2040	--	--	31-10-2020	Working	Non-captive	DEIAA/AP/KDP/2018-19/91, dt.18-11-2018	N 13°54'13.54284" E 78°53'07.52459"	Open Cast
62	Marble	M/s B.R.Mine s & Minerals	D.NO.303, Punyasree Residency, Spiring Filed Colony, Jeedimetla, Secunderabad Ph.NO.9912399799	12150/D12-1/2018, dt.15-09-2020	4.772	13-11-2020	12/11/2040	--	--	13-11-2020	Working	Non-captive	SEIAA/AP/KDP/MI N/10/2019/1344-166, Dt.07-01-2020	N 14°04'12.31752" E 79°19'23.21648"	Open Cast
63	Clay	M/s Siva Sai Minerals, Prop: Sri G. Hari Krishna	D.No.3/26, Bramhana Street, Nandalur Village & Mandal, Ph.No. 9390013060, 9885073213	13491/D12-1/2018, dt.14-12-2020	4.870	11/01/2021	10/01/2041	--	--	11/01/2021	Working	Non-captive	SEIAA/AP/KDP /MIN/10/2019/11318-28, dt.11-06-2020	N 14°17'30.30036" E 79°19'01.49994"	Open Cast
64	RM&BS	M.Yella Reddy	D.No. 12/155-4, Kuppurivaripalli Village, Kamalapuram Mandal, Y.S.R. District Ph.No.9000461491	1896/Q1/2020 , dt. 07-07-2021	0.668	16-07-2021	15-07-2036	--	--	16-07-2021	working	Non-captive	SEIAA/AP/KDP/MI N/11/2020/2526/155.142 & 151.03-183 dt.22-06-2021	N 14°16'18.65611" E 78°44'55.93871"	Open Cast
65	RM&BS	Sri L. Rajagopal Reddy	D.No. 1-00, R/O. Nallathimmayyapalli Village, Lebhaka Post, Nandalur Mandal, Ph.No. 9849485556	4655/Q1/2018 , dt.28-11-2020	1.140	03/02/2021	02/02/2031	--	--	03/02/2021	Working	Non-captive	SEIAA/AP/KDP/MI N/09/2019/1230(1474)	N 14°01'31.45112" E 78°42'55.89200"	Open Cast
66	RM&BS	M/s Siva Sai Stone Crusher, Mg.Ptnr: T. Ratnakar Reddy	D.No.1/440-15-7, Road No.1, Maruthi Nagar, Kadapa, YSR Dist Ph.No. 9440894602	1364/Q1/2020 , dt:07-07-2021	2.350	16-07-2021	15-07-2036	--	--	16-07-2021	working	Non-captive	SEIAA/AP/KDP/MI N/10/2020/2283/155.89 & 151.25-198 dt.22-06-2021	14° 14' 07.07112"N 78° 40'07.32851"E	Open Cast
67	RM&BS	M/s Sreenivas a Stone	D.No.9-969, D11, Noonevaripalli Road, Behind Church,	3267/Q1/2019 , Dt.09-04-2021	2.000	07/07/2021	06/07/2031	--	--	07/07/2021	working	Non-captive	SEIAA/AP/KDP/MI N/09/2020/2015-823 dt.17-12-	14° 14' 11.47819"N 79° 05' 53.69608"E	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/N on-working/Temp. working for dispatch etc)	Captive/ Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/ Underground)
						From	TO	From	TO						
		Crusher, Prop: Sri.A.B.Mahesh Reddy	Rajampeta, Ph.No.9885481510										2020		
68	RM&BS	M/s Sreenivas a Stone Crusher, Prop: Sri.A.B.Mahesh Reddy	D.No.9-969, D11, Noonevaripalli Road, Behind Church, Rajampeta, Ph.No.9885481510	3068/Q1/2019 , Dt.09-04-2021	5.000	07/07/2021	06/07/2036	--	--	07/07/2021	working	Non-captive	SEIAA/AP/KDP/MI N/03/2020/1798-556 dt.25-11-2020	14° 14' 01.63582"N 79° 06' 04.81315"E	Open Cast
69	RM&BS and Gravel	A.B.Mahe sh Reddy	D.No.9-969, D11, Noonevaripalli Road, Behind Church, Rajampeta, Ph.No.9885481510	3067/Q1/2019 , Dt.14-07-2021	2.240	11/10/2021	10/10/2031	--	--	11/10/2021	working	Non-captive	SEIAA/AP/KDP/MI N/03/2020/1802-657 dt.29-11-2020	14° 13' 50.24618"N 79° 06' 43.09688"E	Open Cast
70	Road Metal & Building Stone	Sri B.Ramprasad Reddy	D.No.4/5, Anumpalli Sibiyala, Rayachoty Ph.No. 9848658593	3872/Q1/2017 -2, dt:30-04-2021	1.95	18/09/2021	17/09/2031	--	--	18/09/2021	Working	Non-captive	DEIAA/AP/KDP/2017-18(66), dt:30-04-2018	14°16'18.99806"N 78°30'57.76386"E	Open Cast
71	Black Granite	M/s Stone Art Pvt. Ltd., Mg.Dtr: Sri Kapil Agarwal	D.No.112, Anna Pillai Street, Sowcarpet, Chennai, Ph.No. 9444025246	6690/D12-1/2018, dt:08-03-2022	2.000	27/04/2022	26/04/2042	--	--	27/04/2022	working	Non-captive	SEIAA/AP/KDP/MI N/10/2020/2281/168.33 & 165.35 dt:22-11-2021	14° 08' 49.23176"N 78° 31' 51.04343"E	Open Cast
72	RM & BS	V.V.V.SAI CHAKRA VARTHY	D.No.20/720-1, Co-operative Colony, KadapaPh.No.8555036485	412/Q1/2020, dt:04.04.2022	4.868	28/04/2022	27/04/2032	--	--	28/04/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/ 06/2020/1914/ 162.65& 159.56 554, dt:12.08.2021	14° 54' 23.06579"N78° 59' 25.07732"E	Open Cast
73	Road Metal & Building Stone, M-Sand and Gravel	Sri C.Venkata Subba Reddy	D.No.51/153-42, Rachapalle Village, Ramapuram Mandal, Ph.No.9441136071	1056/QL/2021 , dt:26-04-2022	1.888	11/05/2022	10/05/2032	--	--	11/05/2022	working	Non-captive	SEIAA/AP/KDP/MI N/6/2021/3285/166.66/163.48/859, dtL27-09-2021	14° 00' 59.37256"N 78° 43' 38.63448"E	Open Cast
74	Pyrophyllite	Smt. Abbireddy yari Suvarna	D.No. 39/597-7-1, Aravinda Nagar, Galiveedu Mandal, YSR Dist Ph.No.9652092602	3236/D12-1/2019, dt:29-03-2022	2.41	22/06/2022	21/06/2042	--	--	22/06/2022	working	Non-captive	SEIAA/AP/KDP/MI N/06/2020/1921/829 , dt:18-12-2020	14° 05' 52.39567"N 78° 35' 34.96922"E	Open Cast
75	RM&BS	M/s	D.No.8/24, Vijaya	2796/Q/2021,	2.000	30/05/	29/05/	--	--	30/05/202	Working	Non-	SEIAA/AP/KDP/MI	14°14'13.07561"N	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/N on-working/Temp. working for dispatch etc)	Captive/ Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/ Underground)
						From	TO	From	TO						
		Indrakshi Stone Crusher, Mg.Ptr: Sri S.Anjane yulu	Durga Officers Colony, Kadapa Town, Ph.No.8975433900	dt:07.05.2022		2022	2037			2		captive	N/03/2022/4000/182.65/179.47, dt:07.04.2022	78°38'36.86872"E	
76	Road Metal & Building Stone and Gravel	M/s Sri Venkateswara Stone Crusher	D.No.4/5, Chinthalakunta, Tanguturu Village, Nandaluru Mandal Ph.No.7382537363	663/Q1/2021, dt:31-12-2021	2.992	20/07/2022	19/07/2037	--	--	20/07/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/4/2021/3100/165.30 & 162.29-772, dt:21-09-2021	14°05'43.72117"N 78°55'19.63692"E	Open Cast
77	Colour Granite	M/s Haroon Granites, Mg.Direct or: Sri Shaik Bepari Arshad	H.No.C-17-284, SFS Street, Kadapa Ph.No.9666635410	852/D12-1/2021, dt:28-06-2022	4.980	18/08/2022	17/08/2042	--	--	18/08/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/6/2021/3238/175.78/172.56, dt:08-03-2022	14° 00' 07.60388"N 78° 31' 06.10507"E	Open Cast
78	Quartz	M/s RSP Mines and Minerals, Mg.Ptr: Sri V.Rajasekhar Reddy	D.No. 1/285, Pendlimarri Village & Post, YSR District Ph.No. 9949902841	11721/D12-1/2021, dt:28-10-2022	4.976	09/11/2022	08/11/2042	--	--	09/11/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/01/2022/3909/194.4/184.4, dt:30-04-2022	14° 03' 28.45535"N 78° 27' 40.02707"E	Open Cast
79	Quartz	M/s RSP Mines and Minerals, Mg.Ptr: Sri V.Rajasekhar Reddy	D.No. 1/285, Pendlimarri Village & Post, YSR District Ph.No. 9949902841	11724/D12-1/2021, dt:28-10-2022	4.983	09/11/2022	08/11/2042	--	--	09/11/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/01/2022/3873/180.48/178.40, dt:26-03-2022	14° 03' 15.25160"N 78° 27' 53.55742"E	Open Cast
80	Quartz	M/s RSP Mines and Minerals, Mg.Ptr: Sri V.Rajase	D.No. 1/285, Pendlimarri Village & Post, YSR District Ph.No. 9949902841	11722/D12-1/2021, dt:28-10-2022	4.977	09/11/2022	08/11/2042	--	--	09/11/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/01/2022/3873/1183.53 & 180.38, dt:18-04-2022	15° 03' 51.10779"N 78° 52' 22.67385"E	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/Non-working/Temporary working for dispatch etc)	Captive/Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Method of Mining (Opencast/Underground)
						From	TO	From	TO						
		khar Reddy													
81	Clay	M.Balakrishna Reddy	D.NO.4/35, Pendlimarri Mandal, Kadapa District Ph.No. 9949902841	227jD12-1j2020, dt:20-05-2022	4.9	30/09/2022	29/09/2042	--	--	30/09/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/7/2021/3297/178.74&175.47, dt:19-03-2022	N 14°14'21.33962" E 79°06'01.41666"	Open Cast
82	Quartz	Sri G.Chinna Pulla Reddy	D.No.1/285, Kothapalli Village, Pendlimarri Post & Mandal, YSR Dist Ph.No. 9949902841	6471/D12-1/2019, dt:20-05-2022	4.856	18/07/2022	17/07/2042	--	--	18/07/2022	working	Non-captive	SEIAA/AP/KDP/MI N/10/2020/2232/170.42 /167.45, dt:20-01-2022	N 14°14'45.19815" E 78°36'19.81084"	Open Cast
83	Pyrophyllite	Sri G.Naga Pulla Reddy	D.No.1/285, Kothapalli Village, Pendlimarri Post & Mandal, YSR Dist Ph.No. 9949902841	418/D12-1/2019, dt:20-05-2022	2.780	30/09/2022	29/09/2042	--	--	30/09/2022	working	Non-captive	SEIAA/AP/KDP/MI N/01/2021/2774/163.17&160.14/585, dt:26-08-2021	N 14°06'16.0835" E 78°35'49.3551"	Open Cast
84	RM&BS	M/s Nallagan gammathalli Stone Crushers	D.No.20/720-1, Co-operative Colony, Kadapa Ph.No.8555036485	2868/Q1/2019 dt.13-06-2022	3.000	09/09/2022	08/09/2037	--	--	09/09/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/02/2021/2913/163.112/160.95/626, dt:31.08.2021	N 13°56'2.38375" E 78°46'34.05254"	Open Cast
85	Quartz	Sri Mayana Shafiulla Khan	D.No.28-232, Near Water Tank, Sndupalli Road, Rayachoty, Ph.No.8374879298	3332/D12-1/2021, dt:09-12-2022	2.390	05/01/2023	04/01/2043	--	--	05/01/2023	working	Non-captive	SEIAA/AP/KDP/MI N/7/2022/4489/196.51/193.46, dt:20-09-2022	14° 06' 21.22418"N 78° 34' 57.95487"E	Open Cast
86	Quartz	Sri K.Prabha kar Reddy	D.NO. 1-8, Gondipalli Village, Vemula Mandal, YSR District Ph.No. 9160002734	11723/D12-1/2021, dt:29-12-2022	3.012	20/01/2023	19/01/2043	--	--	20/01/2023	working	Non-captive	SEIAA/AP/KDP/MI N/01/2022/3876/182.47&179.31, dt:01-04-2022	14° 03'36.05002"N 78° 27' 32.50959"E	Open Cast
87	Clay (Others) & Gravel	M/s Mukunda Mines and Minerals, Mg.Ptr: Sri M.Bharath Reddy	D.No.207, Keerthi Eclave, Balaji Nagar, Kadapa, Ph.No. 9885983138	4766/D12-1/2021, dt:13-01-2023	7.202	13/02/2023	12/02/2043	--	--	13/02/2023	Working	Non-captive	SEIAA/AP/KDP/MI N/01/2022/3920/204.18/201.09, dt:16-12-2022	15° 03' 51.10779"N 78° 52' 22.67385"E	Open Cast
88	Black Granite	M/s Royal Granites Mg. Part. Syed Alisher	D.NO. 4/134, Near Railway Gate, Muddanur Village & Mandal, YSR Dist. Ph.No.9885609847	24669/R4-1/2013, Dt:01-06-2015	1.000	02/07/2012	01/07/2032	--	--	02/07/2012	Working	Non-captive	SEIAA/AP/YSRKD P-61/2014-1023, Dt:08-01-2015	14° 05'45.4175"N 78° 49'15.3406"E	Open Cast
89	Clay	O. Eswar	Obulavaripalli (V&Post)	G.O.Ms.No.16,	16.87	24-04-	23-04-	--	--	24-04-	Non working	Non-	No	13° 59'53.81688"N	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/N on-working/Temp. working for dispatch etc)	Captive/ Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/ Underground)
						From	TO	From	TO						
		Reddy	Ph.No.9000811115	I&C (M.III), Dept Dt:23-01-2006	0	2006	2026			2006		captive		79° 13'39.22270"E	
90	Laterite, White Shale, Ochre	B.Venkata Subba Reddy	Polapalli, H/o. Malemapuram Village, Chitvel Mandal, Annamayya District 9177574758	G.o.Ms.No.153, dt:26-06-2009	4.452	28-10-2009	27-10-2029	--	--	28-10-2009	Working	Non-captive	No	322477.1511573277.689	Open Cast
91	Quartz	M.Subbi Reddy	D.No. 1/1468-C, Beside Raghavendra Theater, Parnapalli Road, Pulivendula Ph.No.9030664947	G.O.Ms.No.06, I&C(M.III), Dept Dt:09-01-2014	48.474	07/03/2014	06/03/2034	--	--	07/03/2014	Working	Non-captive	SEIAA/AP/KDP-23/2011, Dt:14-03-2012	14° 15' 13.8" 78° 35' 55.8"	Open Cast
92	Quartz	G. Chinnapulla Reddy	D.No.1/285, Kothapalli Village, Pendlimarri Post & Mandal, YSR Dist Ph.No. 9949902841	G.O.Ms.No.08 I & C.(M.III) Dept Dt:09-01-2014	48.183	15-04-2014	14-04-2034	--	--	15-04-2014	Working	Non-captive	SEIAA/AP/KDP-22/2011-, Dt:14-03-2012	14° 14'42.10799" 78° 36'16.83984"	Open Cast
93	Clay	M/s K.T. Mines	Near Old Bustand, Rajampet, 9440895688	17423/D12-1/2015, dt:14-07-2020	20.242	05/01/2016	04/01/2036	--	--	05/01/2016	Working	Non-captive	SEIAA/AP/KDP/MI N/VIO/9/2017/433-57, DT.11-06-2020	N 14°14'31.0" E 79°08'11.5"	Open Cast
94	Black Granite	M/s Sujani Granites, Proptx. Smt. Sujani	RR Colony, Reddigunta, Chittoor Ph.No.7674070653	6871/R5-1/2019, dt. 05-05-2009	3.000	06/05/2019	05/05/2039	--	--		Non working	Non-captive	SEIAA/AP/CTR/MI N/7/2021/3351/167.53&164.36, DT.26-10-2021	N 13°41'00.4" E 78°40'19.4"	Open Cast
95	Feldspar, Quartz & Silica Sand	G. Sree Anjani	D.No. 2/New, Vellatur Village, Pendlimarri Mandal, Y.S.R. District - 516216 Ph.No.9550033179	315, Dt:07-06-2001	18.700	4/18/2002	4/17/2022	--	--		Non working	Non-captive	No	N14°05'57.45856" E78°50'54.13237"	Open Cast
96	Road Metal & Building Stone	P.Sudhakar Reddy	D.No.2/72, Nallathimmayapalli Village, Nandalur Mandal, Ph.No.8125340812	1078/Q1/2019 dt.28-11-2020	1.695	12/16/2022	12/15/2032	--	--	12/16/2022	Working	Non-captive	SEIAA/AP/KDP/MI N/09/2019/ 1232-1470, dt.25-11-2019	14°16'09.49251"N 78°45'00.51252"E	Open Cast
97	Black Granite	M/s Sri Sai Monica Enterprises, Prop:Smt . V.R. Jayasree	D.No.19-240/21, Near Vignana Deepthi School, Mittor, Chittoor	7785/D13-2/2020, dt.28-04-2023	2.916	6/7/2023	6/6/2023	--	--		Working	Non-captive	SEIAA/AP/CTR/MI N/11/2022/4716/209.31 & 206.21, dt.10-02-2023	N 13°54'08.02628" E 78°59'31.83289"	Open Cast

Sl. No	Name of the Mineral	Lessee Name	Address & Contact No. of the Lessee	Mining Lease Grant order No. & Date	Area in Ha	Period of Minng Lease (Initial)		Period of Minng Lease (1st & 2nd Renewal)		Date of Commencement of Mining Operation	Status (Working/N on-working/Temp. working for dispatch etc)	Captive/ Non-captive	Obtained Environmental Clearance (YES/NO), if Yes, Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & longitude)	Methof of Mining (Opencast/ Underground)
						From	TO	From	TO						
98	Marble	M/s Sri Shiva Balaji Minerals, Part: Sri B.Rakesh	D.No.7-11-4/Ff, Lawyerpet, Ongole, Praksam Dist Ph.No.7702362910	12013/D12-1/2021 dt.01-02-2023	3.790	6/30/2023	6/29/2043	--	--		Working	Non-captive	SEIAA/KDP/MIN/05/2022/4232/190 .15/187.12, dt. 09-07-2022	N 14°04'34.44039" E 79°19'20.02322"	Open Cast
99	RM & BS	Sri A.Siva Rami Reddy	H.NO.40/39/3-6, Near Old Mine Office, Chinnachowk, Kadapa	324/Q1/2020, dt.04-04-2023	2.426	6/28/2023	6/27/2023	--	--		Working	Non-captive	SEIAA/AP/KDP/MIN/02/2021/2942/163.131 & 160.109 dt.31-08-2021	N 14°01'20.51228" E 78°43'09.67545"	Open Cast
100	Colour Granite	Sri K.Yashwanth Chowdary	Pulikallu Post, Penumur Mandal, Chittoor District	4564/D13-2/2019 dt.20-07-2023	6.000	9/16/2023	9/15/2043	--	--		Working	Non-captive	SEIAA/AP/CTR/MIN/11/2021/3581/206.37 & 203.22, dt.20-01-2023	N 13°50'02.55943" E 78°42'23.29449"	Open Cast
101	Colour Granite	Sri K.Murali	Pulikallu Post, Penumur Mandal, Chittoor District	13040/D13-2/2018 dt.20-07-2023	7.800	9/16/2023	9/15/2043	--	--		Working	Non-captive	SEIAA/AP/CTR/MIN/11/2021/3580/214.1 & 211.1 dt.05-05-2023	N 13°50'06.91598" E 78°42'20.37968"	Open Cast
102	RM & BS	M/s VRM Stone Crusher, Prop: Sri P.Raghu natha Reddy	H.NO.39/477, Aravinda Nagar, Kadapa, Y.S.R. District Ph.No.9959008464	7610/QL/2018 dt.29-08-2023	13.265	9/16/2023	9/15/2038	--	--	10/12/2023	Working	Non-captive	SEIAA/AP/KDP/MIN/2021/3408/222 .06/219.3 dt.26-07-2023	N 14°16'15.05085" E 78°41'36.14388"	Open Cast
103	Clay	Sri V.Gangi Reddy	D.No.13/103-1, Kothapalli Village, Mandaram Post, Rajampeta Mandal Ph.No.9908286809	28610/D12-1/2017 dt.29-12-2020	2.798	12/16/2021	12/15/2041	--	--		Working	Non-captive	SEIAA/AP/KDP/MIN/07/2019/1168/249 dt.11-02-2020	N 14°14'11.5" E 79°07'48.4"	Open Cast

Data Source: District Mines and Geology Officer, Annamayya District

Table 15 List of Quarry Leases pertains to the O/o the Divisional Mines and Geology office, Madanapalle

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temp.p.working for dispatch etc.,)	Capti ve/ Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
1	10210 40360	Black Granite	M/s Mukkoddi Granites, Mg. ptr: Sri A. Venkatesan	M/s Mukkoddi Granites, Mg. ptr: Sri A. Venkatesan, S/o Anniyappa, No. E-85, Ground Floor, 6th A Cross, Manyata Residency , Nagavara, Bangalore-560045	9853/R4-1/2015, Dt.27.05. 2015	2.830	17/09 /2004	16/09/ 2024	--	--	10/07/ 2015	W	Non capti ve	DEIAA/AP/CTR -52/2017-55, Dt. 04.12.2017	N 13-39-36.26319 E 78-41-53.19724	Opencast
2	10210 60401	Black Granite	Smt A. Mahadevi	Smt A. Mahadevi, W/o A. Surya Muni, # 4/445-9, Rami Reddy Complex, Sreeramulapeta, Tadipatri.	2759/R5-1/2006, Dt.27.02. 2006	1.870	17/03 /2006	16/03/ 2026	--	--	17/03/ 2006	W	Non capti ve	SEIAA/AP/CTR -533/2015-4089, Dt. 21.09.2015	N 13-43-35.58015 E 78-44-11.34587	Opencast
3	10210 80376	Black Granite	Sri M.A. Muniswamy	Sri M.A. Muniswamy, # 15-4, Peddapalli Gangamma Temple, Newpet, Kuppam - 517 425	6816/R5-1/2007, Dt.16.07. 2008	1.000	10/09 /2008	09/09/ 2028	--	--	10/09/ 2008	W	Non capti ve		N 13-42-38.61984 E 78-31-20.45846	Opencast
4	10210 80412	Black Granite	M/s Shree Gold Granites, Ptr: Sri C. Rajasekhar	M/s Shree Gold Granites, Ptr: Sri C. Rajasekhar, S/o R. Chandrasekaran, CF2, G.K.S. Residency, Govindasamy Layout, Ashok Nagar, Coimbatore -641001, Tamilnadu State / No. 124-3, Kauppiya Street, Coimbatore - 641 001, Tamilnadu State /	47276/R 5-1/11, Dt.25.08. 12	2.983	26/09 /2008	25/09/ 2028	--	--	04/09/ 2012	W	Non capti ve	SEIAA/AP/CTR -33/2014-1148, Dt.13.01.2015	N 13-46-36.20016 E 78-12-05.97449	Opencast
5	10210 80507	Black Granite	Sri B. Mathan	Sri B. Mathan, S/o K. Baskaran, # 11/29A, Sathamangalam, Main Road, Annanagar, Madurai, T.N.	17049/R 5-1/09, Dt.06.11. 2009	1.000	10/11 /2008	09/11/ 2028	--	--	25/02/ 2010	W	Non capti ve	DEIAA/AP/CTR -71/2017-73, dt.04-12-2017	N 13-35-06.18880 E 78-33-22.22996	Opencast

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							From	To	From	To						
6	10210 90293	Black Granite	Sri T. Babuannamalaisamy	Sri T. Babuannamalaisamy, S/o D. Thenrajan, # 4/23, P.T.V. Colony, Krishnagiri (Tk & Dist), Tamilnadu State	36393/R 5-1/09, Dt.16.09.09	2.000	12/11 /2009	11/11/ 2029	--	--	12/11/ 2009	W	Non capti ve		N 13-30-33.09194 E 78-28-54.85532	Opencast
7	10211 00381	Black Granite	M/s Tirumala Enterprises, Prop: Sri K. Mariappa n	Sri K. Mariappan, S/o S. Kumar, Prop: M/s Tirumala Enterprises, Sai Villa Annexe, 200-B, 4th Cross Street, Natesa Nagar, Virugambakkam, Chennai - 600 092.	23236/R 5-1/2007, Dt.24.02.2010	2.500	04/06 /2010	03/06/ 2030	--	--	04/06/ 2010	W	Non capti ve	DEIAA/AP/CTR -54/2017-57, DT. 04-12-2017	N 13-49-34.81376 E 78-20-32.51136	Opencast
8	10211 20046	Black Granite	M/s Sre Sree Mines & Minerals, Prop. Sri. R. Eswaramurthi	M/s Sre Sree Mines & Minerals, Prop. Sri. R. Eswaramurthi, No.2/12-A3, Naharskanda, Subramanian Avenue, Valmik Nagar, Thiruvannamiyur, Chennai-600041	5814/D1 3-2/2022, dt. 11-08-2022	1.846	22/11 /2012	21/11/ 2032	--	--	29/09/ 2022	W	Non capti ve	SEIAA/AP/CTR -143/2013 404, DT. 03.10.2013	N 13-78-08.06021 E 78-41-40.25867	Opencast
9	10211 20051	Black Granite	Smt P. Muthammal	Smt P. Muthammal, W/o V. Arul Selvam, D.No. 4/51-A, Makkanur Post, Indur Via, Pennagaram taluk, Dharmapuri District - 636 803, Tamilnadu State	11532/R 4-1/2015, Dt. 17.06.2015	1.000	29/06 /2015	28/11/ 2032	--	--	29/06/ 2015	W	Non capti ve	SEIAA/AP/CTR -79/2013, Dt. 08.05.2013	N 13-50-45.18814 E 78-31-27.67639	Opencast
10	10211 20292	Black Granite	M/s VSS Granites, Prop: Sri V. Sreenivas	M/s VSS Granites, Prop: Sri V. Sreenivas, S/o V. Anjaneyulu, Mangalipalyam, Chimakurthy (V&Po), Prakasam (Dt) - 523 226	35590/R 5-1/2011, Dt.03.04.2012	0.676	11/04 /2012	24/06/ 2024	--	--	11/04/ 2012	W	Non capti ve	SEIAA/AP/CTR -560/2015, Dt. 15.10.2015	N 13-40-56.36092 E 78-17-00.34968	Opencast

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							From	To	From	To						
11	10211 20453	Black Granite	M/s SPLN Granites, Proptx. Smt. Galla Haritha	M/s SPLN Granites, Proptx. Smt. Galla Haritha, Plot No.79, Valasapalli Industrial Estate, Valasapalli Post, Punganur Road, Madanapalli, Chittoor District - 517325	8072/D1 3-2/2021, Dt. 12-10-2021	1.991	24/12/2012	23/12/2032	--	--	09/12/2021	W	Non captive	SEIAA/AP/CTR -172/2013/169 .75, dt. 21-01-2022 & SEIAA/AP/CTR -172/2013 4592, Dt. 23.10.2013	N 13-52-06.28689 E 78-23-46.49972	Opencast
12	10211 30050	Black Granite	M/s Mohan Naidu Granites, Prop: Sri R. Mohan Naidu	M/s Mohan Naidu Granites, Prop: Sri R. Mohan Naidu, Kotha Venkatapuram (V), Thambuganipalle (Po), Bangarupalyam (M), Chittoor (Dt)	02351/R 5-1/2012, Dt. 25.08.2012	2.000	30/01/2013	29/01/2033	--	--	30/01/2013	W	Non captive	SEIAA/AP/CTR -339/2015-2737, dt. 09-07-2015	N 13-35-23.71841 E 78-26-47.54271	Opencast
13	10211 30058	Black Granite	M/s Sri Sai Granites (P) Ltd., Mg. Dir: Sri R. Anand	M/s Sri Sai Granites (P) Ltd., Mg. Dir: Sri R. Anand, S/o D.V.R. Raghavan, D.No. 35A, Sundaram Street, Stuartpet, Arakkonam, Vellore (Dt) - 631 001	01094/R 5-1/2012, Dt. 22.03.13	1.912	20/05/2013	23/11/2031	--	--	20/05/2013	W	Non captive	SEIAA/AP/CTR -136/2013, DT.12.08.2013	N 13-48-57.61059 E 78-21-47.04503	Opencast
14	10211 30143	Black Granite	M/s Murugan Granite & Export, Prop: Sri PR. Subramanian	M/s Murugan Granite & Export, Prop: Sri PR. Subramanian, S/o CT. Periyasamy, D.No. 123, New No. 16, Church 5th Street, Karaikudi, Sivagangai District, Tamilnadu State	49408/R 5-1/2013, Dt. 22.06.2015	2.650	22/08/2015	04/03/2033	--	--	22/08/2015	W	Non captive	SEIAA/AP/CTR -147/2013, Dt. 08.02.2016 (Name change)	N 13-30-46.37986 E 78-31-37.25219	Opencast
15	10211 30144	Black Granite	M/s Murugan Granite & Export, Prop: Sri PR. Subramanian	M/s Murugan Granite & Export, Prop: Sri PR. Subramanian, S/o CT. Periyasamy, D.No. 123, New No. 16, Church 5th Street, Karaikudi, Sivagangai District, Tamilnadu State	49407/R 4-1/2013, Dt. 24.06.2015	1.750	21/08/2015	04/03/2033	--	--	21/08/2015	W	Non captive	SEIAA/AP/CTR -146/2013, DT. 03.10.2013	N 13-30-46.89302 E 78-31-51.01194	Opencast

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							From	To	From	To						
16	10211 30168	Black Granite	M/s Ram Granites, Partner : Sri L. Shanmugam	M/s Ram Granites, Partner : Sri L. Shanmugam, Karumanoor Post, Mallasamudram, Tiruchengode - 637 503	38383/R 5-1/2012, Dt. 31.01.13	2.000	02/03 /2013	05/07/ 2032	--	--	02/03/ 2013	W	Non capti ve	SEIAA/AP/CTR -247/2013-5487, Dt. 25.10.13	N 13-38-31.48502 E 78-14-05.47708	Opencast
17	10211 30241	Black Granite	Sri T.S. Gowrisankar	Sri T.S. Gowrisankar, S/o Suburamji, Plot No. 28, 1st Street, Ambikanagar, Madambakkam, Chennai - 6000073, Tamilnadu State	06252/R 5-1/2011, Dt.08.10. 2013	1.000	28/11 /2013	27/11/ 2033	--	--	28/11/ 2013	W	Non capti ve	SEIAA/AP/CTR -109/2013, DT. 10.07.2013	N 13-42-42.62697 E 78-32-40.72890	Opencast
18	10211 30466	Black Granite	Smt P.N. Vasantha lakshmi	Smt P.N. Vasanthalakshmi, W/o P. Narayanaswamy Chetty, Subbanna Buildings, Near Police Station, V.Kota Town, Post and Mandal, Chittoor (Dt)	36999/R 5-1/2010, Dt.17.06. 2013	1.850	12/08 /2013	11/08/ 2033	--	--	12/07/ 2013	W	Non capti ve	SEIAA/AP/CTR -60/2013-598, Dt.27.04.2013	N 13-42-16.43296 E 78-28-19.19534	Opencast
19	10211 40382	Black Granite	Sri S.Md. Khasim	Sri S.Md. Khasim, S/o S. Abdul Latheef, D.No. 7/31/c, Bhagyanagar, Guntakal (Po & M), Anantapur (Dt)	06714/R 5-1/2013, Dt. 26.02.20 14	1.462	17/04 /2014	16/04/ 2034	--	--	17/04/ 2014	W	Non capti ve	SEIAA/AP/CTR -131/2013-3008, Dt. 12.08.2013	N 13-50-43.76514 E 78-20-31.77688	Opencast
20	10211 50344	Black Granite	M/s Stanvis Minerals, Mg.Ptr. Sri Mettu Sumanth Kumar Reddy	M/s Stanvis Minerals, Mg.Ptr. Sri Mettu Sumanth Kumar Reddy, HMDA Techno Enclave, Plot No. 19/2, Sector-III, Madhapur, Hyderabad- 500081	2382/D1 3-05/2021, dt.13-05-2021	3.000	30/04 /2015	29/01/ 2033	--	--	19/08/ 2021	W	Non capti ve	SEIAA/AP/CTR -382/2014-1947, DT. 27-11-2015	N 13-29-29.68526 E 78-31-37.31298	Opencast
21	10211 60517	Black Granite	Sri R. Mohan Naidu	Sri R. Mohan Naidu, S/o R. Lingam Naidu, Kothavenkatapuram (V), Thambuganipalli Post, Bangarupalyam (M), Chittoor (Dt)	17719/R 5-1/2014, Dt. 06.04.20 16	3.000	03/10 /2016	02/10/ 2036	--	--	03/10/ 2016	W	Non capti ve	SEIAA/AP/CTR /500/2015-3470, Dt. 14.08.2015	N 13-33-38.91943 E 78-27-35.31973	Opencast

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							From	To	From	To						
22	10211 70540	Black Granite	Sri P. Rajendra Reddy	Sri P. Rajendra Reddy, S/o P. Venkatrama Reddy, D.No. 19-459/8, Reddy Colony, Fire Station Back Side, Mittoor, Chittoor, Andhra Pradesh	10709/R 5-1/2010, Dt. 31.08.2016	2.000	14/02/2017	13/02/2037	--	--	14/02/2017	W	Non capti ve	SEIAA/AP/CTR /74/2013, Dt. 08.05.2013	N 13-36-00.40129 E 78-39-49.61821	Opencast
23	10211 70542	Black Granite	D. Siva Kumar	D. Siva Kumar, S/o D.Srinivasulu, Plot No.100, Tuda Plots , RC Road, Tirupati	51098/R 5-1/2013, dt.03-03-2017	1.486	24/06/2017	23/06/2037	--	--	24/06/2017	W	Non capti ve	SEIAA/AP/CTR -490/2015-4098, dt. 21-09-2015	N 13-50-36.80824 E 78-25-51.54317	Opencast
24	10211 70547	Black Granite	M/s Sri Sai Granites, Prop: Sri N. Shyama Raju	M/s Sri Sai Granites, Prop: Sri N. Shyama Raju, S/o N. Venkata Raju, Shyamarajapuram (V), Karlagatta (Po), Shanthipuram (M), Chittoor (Dt)	8975/R5-1/2016, dt: 27-04-2017	1.896	23/06/2017	22/06/2037	--	--	23/06/2017	W	Non capti ve	SEIAA/AP/CTR -48/2017-47, Dt: 08.02.2017	N 13-52-26.87135 E 78-19-26.92120	Opencast
25	10211 70549	Black Granite	Sri Anil Srinivasa	Sri Anil Srinivasa, No.3, 2nd floor, 9th A bLock, 6th Cross, 1st A Main Road, Kumara Park, Bangalore - 560020.	8572/D1 3-2/2021, dt. 08-03-2022	1.900	12/07/2017	11/07/2037	--	--	30/04/2022	W	Non capti ve	SEIAA/AP/CTR /MIN/01/2016 /16, dt. 31-10-2016	N 13-30-36.16787 E 78-29-56.46990	Opencast
26	10212 20609	Black Granite	Sri Y. Mahadeva Reddy	Sri Y. Mahadeva Reddy, S/o Sahadeva Reddy, Samakotavaripalli H/o Agraharam, Nimmanapalli (M), Chittoor (Dt) - 517 280, Andhra Pradesh	37437/D 13-2/2011, Dt. 21-02-2022	2.000	17/03/2022	16/03/2042	--	--	17/03/2022	W	Non capti ve	SEIAA/AP/CTR /MIN/12/2020 /2732/163.45 & 160.37-599 , Dt. 26.08.2021	N 13-36-31.97389 E 78-42-26.63444	Opencast
27	10211 70545	Black Granite	M/s Sri Sai Granites, Prop: Sri N. Shyama Raju	M/s Sri Sai Granites, Prop: Sri N. Shyama Raju, S/o N. Venkata Raju, Shyamarajapuram (V), Karlagatta (Po), Shanthipuram (M),	8974/R5-1/2016, dt: 27-04-2017	1.987	23/06/2017	22/06/2037	--	--	23/06/2017	W	Non capti ve	SEIAA/AP/CTR -47/2017-47, Dt: 08.02.2017	N 13-52-29.69164 E 78-19-27.48077	Opencast

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							From	To	From	To						
				Chittoor (Dt)												
28	10211 70546	Black Granite	M/s Sri Sai Granites, Prop: Sri N. Shyama Raju, Prop: Sri N. Shyama Raju	M/s Sri Sai Granites, Prop: Sri N. Shyama Raju, S/o N. Venkata Raju, Shyamarajapuram (V), Karlagatta (Po), Shanthipuram (M), Chittoor (Dt)	8976/R5-1/2016, dt: 27-04-2017	1.347	23/06 /2017	22/06/ 2037	--	--	23/06/ 2017	W	Non capti ve	SEIAA/AP/CTR -46/2017-46, Dt: 08.02.2017	N 13-52-25.89729 E 78-19-31.39098	Opencast
29		Black Granite	R Suresh	Sri R.Suresh, S/o P.Ramachandran, D.No:52/27, Dr.Ragavan Colony, 2nd Street, Vadapalani, Chennai - 026, Tamilnadu	35306/D 13-2/2010, dt.23-06-2023	2.000	21/08 /2023	20/08/ 2043	--	--	21/08/ 2023	W	Non capti ve	DEIAA/AP/CTR -90/2017-93, dt:04-12-2017	N 13-45-52.11427 E 78-27-05.26998	Opencast
30	16212 30001	Black Granite	C.Naveen Kumar Reddy	Sri C.Naveen Kumar Reddy, S/o C.Janardhan Reddy, D.No: 1-56-A, Nagareddypalli, Molakavemula Post, Mudigubba Mandal, Ananthapuramu District - 515 511	8307/D1 3-2/2019, dt.26-06-2023	3.816	14/08 /2023	13/08/ 2043	--	--	07/10/ 2023	W	Non capti ve	SEIAA/AP/CTR /MIN/10/2020 /2277/155.82 & 151.20-195, dt:22-06-2021	N 13-48-25.00415 E 78-27-54.11565	Opencast
31	10210 40342	Colour Granite	Sri M. Shanmuga	Sri M. Shanmuga, Gurukrupa, No.681, (New No. 8), 12th cross, 4th Main Road, M.C. Layout, Vijayanagar, Bangalore - 560 040	256/R4-2/2004, Dt. 25-11-04	1.417	29/11 /2004	28/11/ 2024	--	--	29/11/ 2004	W	Non capti ve		N 13-34-27.89779 E 78-32-32.71520	Opencast

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							From	To	From	To						
32	10210 50455	Colour Granite	M/s Monarch Granites, MG. Ptr: Sri R. Guruswamy	Sri R. Guruswamy, S/o Ramaswamy, Mg. Ptr: M/s Monarch Granites, No. 33/5, Iraniyan Street, Lakshmi Nagar, Solar, Erode - 638 002	43229/R 5-12012, Dt.04.05. 2013	1.625	02/07 /2013	21/09/ 2025	--	--	02/07/ 2013	W	Non capti ve	SEIAA/AP/CTR -582/2015, Dt. 27.11.2015	N 13-35- 57.16394 E 78-33- 47.71357	Opencast
33	10210 60311	Colour Granite	M/s V.S.R. Granites, Prop. Sri. V. Reddappa Reddy	M/s V.S.R. Granites, Prop. Sri. V. Reddappa Reddy, H.NO. 7-43, Plot.no. 101, Ameneni Street, Madanapalli	34504/R 5-1/2005, Dt.14.12. 2005	1.000	05/07 /2006	04/07/ 2026	--	--	05/07/ 2006	W	Non capti ve	DEIAA/AP/CTR -119/2018- 129, dt. 19- 02-2018	N 13-31- 15.46752 E 78-29- 36.98411	Opencast
34	10211 10149	Colour Granite	M/s Aleef Stones, Proptx: Smt Y. Sharmila	M/s Aleef Stones, Proptx: Smt Y. Sharmila, D.No. 4-3- 2-A-4-1, Krishna Nagar, Madanapalle, Chittoor (Dt)	17077/R 5-1/2009, Dt.03.11. 2011	2.770	09/11 /2011	08/11/ 2031	--	--	09/11/ 2011	W	Non capti ve	SEIAA/AP/CTR -188/2013- 4909, Dt. 25.10.2013	N 13-34- 31.91301 E 78-32- 04.81879	Opencast
35	10211 20141	Colour Granite	Sri N. Syed Ajmal	Sri N. Syed Ajmal, S/o Syed Noorulla, H- 43-A, 2nd Phase, New Housing Board, krishnagiri - 635 001	11772/R 5-1/2011, Dt.30.07. 2012	6.400	13/08 /2012	12/08/ 2032	--	--	13/08/ 2012	W	Non capti ve	SEIAA/AP/CTR -148/2013 4036, Dt. 03.10.2013	N 13-30- 30.52577 E 78-29- 37.21002	Opencast
36	10211 20142	Colour Granite	Sri N. Syed Ajmal	Sri N. Syed Ajmal, S/o Syed Noorulla, H- 43-A, 2nd Phase, New Housing Board, krishnagiri - 635 001	11777/R 5-1/2011, Dt.30.07. 2012	5.000	24/09 /2012	23/09/ 2032	--	--	24/09/ 2012	W	Non capti ve	DEIAA/AP/CTR /G-258/2018- 163, dt. 15- 10-18 (Old EC No. SEIAA/AP/CTR -149/2013- 4058, Dt.03.10.2013	N 13-30- 27.99543 E 78-29- 48.77543	Opencast
37	10211 20145	Colour Granite	M/s Y.S.R. Enterprises, Prop: Sri Y. Sree Ram	Sri Y. Sree Ram, Prop: M/s Y.S.R. Enterprises, D.No. III - 161- 18- 16-4, Near Gangamma Temple, S.B.I. Colony, Madanapalle - 517 325	39552/R 5-1/2010, Dt.27.08. 2011	2.000	13/04 /2012	12/04/ 2032	--	--	13/04/ 2012	W	Non capti ve	SEIAA/AP/CTR -598/2014, Dt. 18.01.2016	N 13-49- 16.99139 E 78-22- 52.96829	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temp. working for dispatch etc.,)	Captive/Non-captive	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
38	10211 20243	Colour Granite	M/s . Green Valley Mines, Partner. Sri M.Sathivel	M/s . Green Valley Mines, Partner. Sri M.Sathivel, Plot No. 207, Ground Floor, Durgai Avenue, Selavoyal, Chennai - 600 051	11288/D 13-2/2022, dt. 29-12-2022	1.700	24/08 /2012	23/08/ 2032	--	--	04/02/ 2023	W	Non captive	SEIAA/AP/CTR -152/2013-4041, Dt.03.10.2013	N 13-34-31.32674 E 78-31-55.5547	Opencast
39	10211 30030	Colour Granite	Sri P. Subramani	Sri P. Subramani, S/o P. Papi Reddy, D.No. 1/778, New No. 1751, Alekottai Village, Pathakotta Post, Beerjepalli Panchayat, Hosur (Tk), Krishnagiri District - 635 119.	17920/R 4-1/2015, Dt. 19.08.20 15	2.290	06/11 /2013	05/11/ 2033	--	--	12/10/ 2015	W	Non captive	DEIAA/AP/CTR -97/2018-97, dt. 19-02-2018	N 13-41-18.22982 E 78-24-15.83303	Opencast
40	10211 30146	Colour Granite	M/s Pokarna Limited	M/s Pokarna Limited, No. 105, Surya Towers, S.P. Road, Secunderabad - 500 003	16930/R 5-1/2013, Dt. 03.10.20 13	14.800	26/11 /2013	25/11/ 2033	--	--	26/11/ 2013	W	Non captive	SEIAA/AP/CTR -104/2013, DT. 10.07.13	N 13-57-05.56819 E 78-26-40.69338	Opencast
41	10211 30249	Colour Granite	Sri P. Subramani	Sri P. Subramani, S/o P. Papi Reddy, Pathakotta village & Post, Hosur Taluk, Krishnagiri (Dt), T.N. 635 119	33045/R 5-1/2012, Dt.29.07. 2013	2.739	08/11 /2013	07/11/ 2033	--	--	08/11/ 2013	W	Non captive	SEIAA/AP/CTR -113/2013-2450, DT. 10.07.2013	N 13-41-13.38202 E 78-24-13.23125	Opencast
42	10211 30251	Colour Granite	M/s Siva Deepa Granites, Prop: Sri C. Naga Venkatesh	Sri C. Naga Venkatesh, Prop: M/s Siva Deepa Granites, S/o C. Subba Rao, D. No. 11-17 (Upstairs), Jettipalyam Street, Vayalpadu, Chittoor (Dt)	16928/R 5-1/2010, Dt.23.05. 2012	2.420	06/06 /2013	05/06/ 2033	--	--	13/05/ 2013	W	Non captive	SEIAA/AP/CTR -263/2013-5529, DT. 25.10.2013	N 13-42-38.32501 E 78-08-28.01159	Opencast
43	10211 30316	Colour Granite	Sri S.G. Chandramouli	Sri S.G. Chandramouli, S/o Gangadharaswamy, Sri Vigneswara, 8th Cross, S.S.Puram,	35702/R 5-1/2012, Dt.06.04. 2013	1.000	04/06 /2013	20/10/ 2029	--	--	04/06/ 2013	W	Non captive	SEIAA/AP/CTR -91/2013-4751, Dt. 23.10.2013	N 13-39-04.27377 E 78-20-11.05237	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temp.p.working for dispatch etc.,)	Capti ve/ Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
				Tumkur - 572 102, Karnataka State												
44	10211 40304	Colour Granite	M/s Ganga Granites, Prop: Sri G. Chalapathi	M/s Ganga Granites, Prop: Sri G. Chalapathi, Ganga Photo Studio, Molakalacheruvu Village, Post and Mandal, Chittoor District	26749/R 4-1/2011, Dt.08.08.2014	3.000	11/11/2014	10/11/2034	--	--	11/11/2014	W	Non capti ve	SEIAA/AP/CTR -250/2013-5718, Dt. 25.10.2013	N 13-44-43.42892 E 78-10-16.39841	Opencast
45	10211 50299	Colour Granite	M/s Gem Granites Private Limited, Mg. Dir: Sri R. Veeramani	M/s Gem Granites Private Limited, Mg. Dir: Sri R. Veeramani, No. 76, Cathadral Road, Chennai- 600 086, Tamilnadu State	32692/R 4-1/2011, Dt. 29.12.2014	2.430	24/02/2015	23/02/2035	--	--	24/02/2015	W	Non capti ve	SEIAA/AP/CTR -90/2013, Dt. 10.06.2013	N 13-43-20.13778 E 78-30-18.58299	Opencast
46	10211 50343	Colour Granite	M/s Stanvis Minerals, Mg.Ptr. Sri Mettu Sumanth Kumar Reddy	M/s Stanvis Minerals, Mg.Ptr. Sri Mettu Sumanth Kumar Reddy,HMDA Techno Enclave, Plot No. 19/2, Sector-III, Madhapur, Hyderabad- 500081	2381/D1 3-05/2021, dt.13-05-2021	6.000	30/04/2015	27/04/2032	--	--	19/08/2021	W	Non capti ve	SEIAA/AP/CTR - MIN/06/2016-17 Dt. .08.2016	N 13-29-27.55928 E 78-31-34.01514	Opencast
47	10211 50422	Colour Granite	M/s Gem Granites Private Limited, Mg. Dir: Sri R. Veeramani	M/s Gem Granites Private Limited, Mg. Dir: Sri R. Veeramani, No. 76, Cathadral Road, Chennai- 600 086, Tamilnadu State	56131/R 4-1/2010, Dt. 01.06.2015	1.934	23/07/2015	22/07/2035	--	--	23/07/2015	W	Non capti ve	SEIAA/AP/CTR -372/2014-1322, Dt. 28.01.2015	N 13-41-31.64371 E 78-32-49.38589	Opencast

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							From	To	From	To						
48	10211 60523	Colour Granite	Smt D. Vaishnavi	Smt D. Vaishnavi, W/o H.B. Raghavendra Gupta, D.No. 45, Rayapan Street, Krishnagiri - 635 001, Tamilnadu State	11781/R 5-1/2011, Dt. 27.03.2016	3.390	21/05/2016	20/05/2036	--	--	21/05/2016	W	Non capti ve	SEIAA/AP/CTR /511/2015-4057, Dt. 21.09.2015	N 13-30-19.36029 E 78-30-06.00632	Opencast
49	10211 60524	Colour Granite	M/s White Field Stones, Mg.Ptr. Sri. K. Deepak Ram Reddy	M/s White Field Stones, Mg.Ptr. Sri. K. Deepak Ram Reddy, Flat No. 501, Creasent Manor, Santhinagar, Nellore - 524003	11771/R 5-1/2011, Dt. 27.03.2016	3.000	21/05/2016	20/05/2036	--	--	21/05/2016	W	Non capti ve	SEIAA/AP/CTR -511/2015-4057, Dt.21.09.2015	N 13-30-19.95615 E 78-30-11.13943	Opencast
50	10211 80555	Colour Granite	M/s Turbo Granites, Designated Ptr. Sri Balabhadruni Amarnath Gupta	M/s Turbo Granites, Designated Ptr. Sri Balabhadruni Amarnath Gupta, D.No. 17/89/7/A/B, 7th Cross, N.V.R. Layout, Madanapalli, Chittoor District	4510/R5-1/2019, Dt. 17-09-2019	4.000	19/04/2018	18/04/2038	--	--	14/11/2019	W	Non capti ve	SEIAA/AP/CTR /MIN/60/2017-876, dt. 19-12-2020, old EC: DEIAA/AP/CTR -60/2017-63, dt. 04-12-2017, 3600 cbm	N 13-31-54.14253 E 78-30-16.29101	Opencast
51	10211 80559	Colour Granite	Sri R. Ramachandra Rao	Sri R. Ramachandra Rao, XVII-469-9-3-1, Vivekananda Nagar, Madanapalli - 517325, Chittoor Dist	40003/R 5-1/2011, dt. 28-06-2018	3.141	24/07/2018	23/07/2038	--	--	24/07/2018	W	Non capti ve	DEIAA/AP/CTR -136/2018-136, dt. 03-04-2018	N 13-22-54.85557 E 78-23-38.46063	Opencast
52	10211 80562	Colour Granite	M/s D.K. Mining LLP, Partner. Kundavarapu Srinivas Naidu	M/s D.K. Mining LLP, Partner. Kundavarapu Srinivas Naidu, Regd.No. 21, 1st floor, MFS Road, Muthyalanagar, Bangalore, KA - 500016	27746/R 5-1/2017, dt.17-08-2018	7.852	15/10/2018	14/10/2038	--	--	15/10/2018	W	Non capti ve	SEIAA/AP/CTR /MIN/03/2018/521-319, dt. 17-05-2018	N 13-30-55.12089 E 78-31-31.77296	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temporary working for dispatch etc.,)	Capti ve/ Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
53	10211 80567	Colour Granite	Sri A. Karthikeyan	Sri A. Karthikeyan, C/o Smt.P. Suganya, D.No. 39/1, Manicka vasagar, Street-2, Ammapet, Salem-636003	18140/R 5-1/2017, dt.12-09-2018	3.831	09/11/2018	08/11/2038	--	--	09/11/2018	W	Non capti ve	DEIAA/AP/CTR -132/2018-132, dt.03-04-2018	N 13-29-14.0 E 78-30-41.4	Opencast
54	10211 80568	Colour Granite	Smt. K. Shalini	Smt. K. Shalini, W/o Sri K. Srikar Reddy, #15F, M.G.R. Road, Pushpa Avenue, Palavakkam, Chennai-600041	16030/R 5-1/2017, dt.05-10-2018	5.117	05/10/2018	04/10/2038	--	--	05/10/2018	W	Non capti ve	SEIAA/AP/CTR /MIN/02/2018 /522-317, dt.17-05-2018	N 13-30.43.6 E 78-31-34.6	Opencast
55	10211 80575	Colour Granite	Sri G. Naveen Kumar	Sri G. Naveen Kumar, H.No. 15/1197, 3rd Road, Sanjeeva Nagar, Tadipatri, Ananthapuramu - 515411	11917/R 5-1/2011, dt.04-06-2018	4.425	02/08/2018	01/08/2038	--	--	02/08/2018	W	Non capti ve	DEIAA/AP/CTR -58/2017-60, dt.04-12-2017	N 13-30-22.3 E 78-29-42.1	Opencast
56	10211 80600	Colour Granite	M/s Siva Deepa Granites, Prop. Sri C. Naga Venkatesh	M/s Siva Deepa Granites, Prop. Sri C. Naga Venkatesh, D.No. 11-17, Upstairs, Settypalyam Street, Vayalpadu (V & P), Chittoor Dist-517299	11797/R 5-1/2011, dt. 04-06-2018	2.000	31/07/2018	30/07/2038	--	--	31/07/2018	W	Non capti ve	DEIAA/AP/CTR -129/2018-129, dt. 03-04-2018	N 13-42-48.5 E 78-08-31.8	Opencast
57	10211 90592	Colour Granite	Sri N. Amanulla	Sri N. Amanulla, S/o N. Khadervalli, D.No. 1-83, Mazeed Street, Madikurthy Vill & Post, Kalikiri Mandal, Chittoor - 517237	23341/R 5-1/2017, dt. 04-06-2018	2.000	13/02/2019	12/02/2039	--	--	13/02/2019	W	Non capti ve	DEIAA/AP/CTR -134/2018-134, dt.03-04-2018	N 13-44-14.75215 E 78-44-38.68566	Opencast
58	10212 00582	Colour Granite	M/s Nagaraju Granites, Prop. Sri C. Nagarajan	M/s Nagaraju Granites, Prop. Sri C. Nagarajan, D.No. 1/4-C, Anchoor Village, Krishnagiri Dt, T.N.	31287/D 13-2/2017, dt. 14-02-2020	2.810	12/03/2020	11/03/2040	--	--	12/03/2020	W	Non capti ve	SEIAA/AP/CTR /MIN/01/2019 /819, DT. 03-05-2019	N 13-23-13.62818 E 78-24-08.19777	Opencast

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							From	To	From	To						
59	10212 00585	Colour Granite	M/s Win Granites, Prop: Sri R.Kannan	Sri R.Kannan, Prop of M/s Win Granites, D.No. 10/148, Anki Chetty Street, Old Pet, Palamaner, Chittoor Dt. - 517408.	30096/D 13-2/2017, dt. 21-07-2020	1.834	07/08 /2020	06/08/ 2040	--	--	07/08/ 2020	W	Non captive	SEIAA/AP/CTR /MIN/02/2019 /829-223, Dt. 03-05-2019	N 13-43-31.30970 E 78-23-34.90962	Opencast
60	10212 00587	Colour Granite	M/s Tirumala Sai Granites, Prop. Sri P. Thrimoorthy	M/s Tirumala Sai Granites, Prop. Sri P. Thrimoorthy, S/o M.Papanna, D.No. 1-148, Yamaganipalli (V&Po), Gudupalli (M), Chittoor District.	2758/D1 3-2/2018, 13-03-2020	4.450	07/05 /2020	06/05/ 2040	--	--	07/05/ 2020	W	Non captive	SEIAA/AP/CTR /MIN/03/2019 /9008-497, DT. 29-06-2019	N 13-25-46.80143 E 78-22-40.87945	Opencast
61	10212 00596	Colour Granite	Sri Abishek Eashwaran	Sri Abishek Eashwaran, S/o P.K.M. Selvam, Otha veedu, Andar Kottaram, Karuppayurani, Madurai-625020	29860/D 13-1/2017, dt. 30-11-2020	4.758	22/12 /2020	21/12/ 2040	--	--	22/12/ 2020	W	Non captive	SEIAA/AP/CTR /MIN/02/2019 /840-190, dt. 03-05-2019	N 13-30-54.6 E 78-30-27.5	Opencast
62	10212 00602	Colour Granite	M/s Mahinoor Rocks	M/s Mahinoor Rocks, Prop. Sri Khayum Kampli, S/o Abdul Gaffur Sahib, No. 1637, 10th cross, Nisarga Layout, Bangalore South - 560083	12362/D 13-2/2022, dt. 27-12-2022	4.940	30/12 /2020	29/12/ 2040	--	--	27/01/ 2023	W	Non captive	SEIAA/AP/CTR /MIN/08/2019 /1211-1461, dt. 25-11-2019	N 13-49-21.13093 E 78-26-54.93635	Opencast
63	10212 10601	Colour Granite	M/s Alfa Granites, Mg.Ptr. Sri Faisal Shareef, Alfa Manora	M/s Alfa Granites, Mg.Ptr. Sri Faisal Shareef, S/o Ziaullah Shareef, Alfa Manor, #227, 2nd Floor, Greenglen Layout, Off. Outer Ring Road, Ballandur Village, Varthur Hubli, Bangalore-560037	8302/D1 3-2/2018, dt. 07-01-2021	3.500	05/03 /2021	04/03/ 2041	--	--	05/03/ 2021	W	Non captive	SEIAA/AP/CTR /MIN/06/2019 /1008-1023, dt. 13-09-2019	N 13-31-38.39389 E 78-29-39.69589	Opencast

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							From	To	From	To						
64	10212 20623	Colour Granite	M/s Fine Line Granites, Ptr: Sri T.C.Babu Reddy	M/s Fine Line Granites, Ptr: Sri T.C.Babu Reddy, No:23/1, 2nd Floor, Raj Complex, NGEF Layout, 80 ft Road, Nagarabhavi, Bangalore, Karnataka - 560 072	4363/D13-2/2023, dt.17-03-2023	5.580	23/03/2022	22/03/2042	--	--	23/03/2022	W	Non captive	SEIAA/AP/CTR/MIN/11/2020/1425/155.188&152.04-176, Dt.22-06-2021	N 13-31-29.56728 E 78-30-15.52931	Opencast
65	10212 20624	Colour Granite	M/s Shree Amma Bhagavan Granites, Proptx. Smt. N. Valli	M/s Shree Amma Bhagavan Granites, Proptx. Smt. N. Valli, W/o S. Naresh, D.No. 22-1091, GF-3, Vavi apartments, SBI Colony, Kongareddipalli, Chittoor District - 517001	12971/D13-2/2018, Dt. 25-03-2022	3.660	30/03/2022	29/03/2042	--	--	30/03/2022	W	Non captive	SEIAA/AP/CTR/MIN/04/2019/911/155.18&152.03.175, dt. 22-06-2021	N 13-29-24.98663 E 78-30-59.12172	Opencast
66	10212 20628	Colour Granite	Smt. Y. Lakshmi devi	Smt. Y. Lakshmi devi, W/o Y. Sreeramulu, D.No. III-161-18-16-4, Near Gangamma Temple, SBI Colony, Madanapalli, Chittoor District - 517325	8132/D13-2/2020, dt. 20-05-2022	4.989	18/07/2022	17/07/2042	--	--	18/07/2022	W	Non captive	SEIAA/AP/CTR/MIN/02/2021/2898/163.102&160.85-622, dt. 31-08-2021	N 13-29-50.52595 E 78-31-39.76200	Opencast
67		Colour Granite	Sri Ponnnavolu Karthik Reddy	Sri Ponnnavolu Karthik Reddy, S/o Ponnnavolu Sudhakara Reddy, D.No. 1-56/1, Raja Street, Kanuparthipadu, Nellore, SPSR Nellore District.	3699/D13-2/2021, dt. 08-07-2022	6.765	03/09/2022	02/09/2042	--	--	03/09/2022	W	Non captive	SEIAA/AP/CTR/MIN/07/2021/3299/185.27&182.24, dt. 18-05-2022	N 13-30-44.27046 E 78-30-34.05991	Opencast
68		Colour Granite	Sri Syed Shah Shoibuddin	Sri Syed Shah Shoibuddin, S/o Syed Shah Salahuddin, D.No. 16/12, Atkinson Road, Vepery, Chennai, Tamilnadu - 600007	375/D13-2/2020, dt. 06-05-2022	1.840	06/05/2022	05/05/2042	--	--	06/05/2022	W	Non captive	SEIAA/AP/CTR/MIN/02/2021/2933/163.125&160.104-632, dt. 31-08-2021	N 13-31-22.46696 E 78-29-46.00717	Opencast

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							From	To	From	To						
69		Colour Granite	Kum. Golla Usha	Kum. Golla Usha, D/o Golla Lakshmaiah, #15/14-1, Sainagar, Madakasira Mandal, Ananthapur District-515301	6863/D13-2/2021, dt. 23-08-2021	3.864	21/09/2021	20/09/2041	--	--	21/09/2021	W	Non capti ve	SEIAA/AP/CTR/MIN/07/2019/1079/1378, dt:07-11-2019	N 13-43-27.26432 E 78-22-42.09172	Opencast
70		Colour Granite	Sri Makineni Venkata Ramanai ah	Sri Makineni Venkata Ramanaiah, S/o Narasaiah, H.No. 18/37-C, Katuvaripalem (V), Podili (M), Prakasam District. - 523240	6777/D13-2/2019, dt. 26-04-2022	4.770	19/07/2022	18/07/2042	--	--	19/07/2022	W	Non capti ve	SEIAA/AP/CTR/MIN/6/2021/3286/166.67/163.49-860, dt. 27-09-2021	N 13-57-47.70644 E 78-26-54.95941	Opencast
71		Colour Granite	M/s N.S.Grani tes, Prop: Sri L.Natarajan	M/s N.S.Granites, Prop: Sri L.Natarajan, D.No:14/126, A.P.Vajravelu Chetty Street, Kuppam, Chittoor District - 517 425	41258/R5-1/2011, dt.12-09-2012	7.947	24/05/2023	23/05/2043	--	--	24/05/2023	W	Non capti ve		N 13-31-15.79068 E 78-29-45.41004	Opencast
72		Colour Granite	M/s Janamithra Granites, Prop: Sri N.Siva Reddy	M/s Janamithra Granites, Prop: Sri N.Siva Reddy, D.No:9-68/1, Amaravathi Nagar, M.R.Palli, Tirupathi - 517 502.	4929/D13-2/2021, dt.24-03-2022	6.000	21/06/2023	20/06/2043	--	--	21/06/2023	W	Non capti ve	SEIAA/AP/CTR/MIN/02/2021/3948/197.62 & 194.52, dt:07-10-2022	N 13-31-53.96573 E 78-30-07.62102	Opencast
73		Colour Granite	M/s Manjunath Rocks, Mg.Ptr: Sri M.Murali	M/s Manjunath Rocks, Mg.Ptr: Sri M.Murali, D.No:6-90, Vijaya Lakshmi Colony, Mangasamudram Rural, Chittoor - 517 004	1986/D13-2/2019, dt.22-07-2022	3.529	27/07/2023	26/07/2043	--	--	27/07/2023	W	Non capti ve	SEIAA/AP/CTR/MIN/11/2020/2390/158.23 & 153.55-369, dt:28-06-2021	N 13-31-33.34437 E 78-29-54.36605	Opencast
74	10210 40253	Colour Granite & DMS	M/s Archean Granites (P) Ltd.,	M/s Archean Granites (P) Ltd., New Court Road, Kuppam	17975/R4-2/2003, Dt.14.05.2004	1.000	09/07/2004	08/07/2024	--	--	09/07/2004	W	Non capti ve		N 13-19-41.69654 E 78-24-39.47170	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temporary working for dispatch etc.,)	Captive/Non-captive	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
75	10212 20620	Colour Granite & DMS	M/s G.K. Stones India Private Limited, Mg. Dir. Vikram Krishna	M/s G.K. Stones India Private Limited, Mg. Dir. Vikram Krishna, Industrial Park, Flat No. 113, Valasapalli Village, Madanapalli Mandal Chittoor District - 517325	2152/D1 3-2/2020, dt. 20-06-2022	3.581	15/07/2022	14/07/2042	--	--	15/07/2022	W	Non captive	SEIAA/AP/CTR /MIN/8/2021/3432/177.10&174.6, dt. 15-03-2022	N 13-38-36.95759 E 78-34-31.15734	Opencast
76	10210 70174	Dimensional Stone	M/s G.K. Stones India Private Limited, Mg. Dir: Sri Vikram Krishna	M/s G.K. Stones India Private Limited, Mg. Dir: Sri Vikram Krishna, Raintree Apartments, Flat No. 3A, Venus Colony, 2nd cross Street, Alwarpet, Chennai - 600 018, Tamilnadu State	1345/RQ L/2017, dt.13-07-2023	2.647	03/09/2015	31/03/2023	4/1/2023	3/31/2033	28/08/2023	W	Non captive	SEIAA/AP/CTR /MIN/8/2021/3388/172.39&169.33, Dt. 06-08-2021	N 13-34-20.88930 E 78-35-07.89428	Opencast
77	10210 70208	Dimensional Stone	M/s G.K. Granites (P) Ltd	M/s G.K. Granites (P) Ltd, # 759, Red building 6th Cross, pipe Line Robertsonpet, K.G.F., Karnataka State	1344/RQ L/2017, Dt.22.02.2021	1.000	01/09/2007	31/08/2017	9/1/2017	8/31/2027	21/05/2021	W	Non captive	SEIAA/AP/Chittoor/MIN/09/2020/2117-888, Dt.17.12.2020	N 13-38-35.11920 E 78-34-26.30102	Opencast
78	10211 40263	Dimensional Stone	M/s R.R. Stones (P) Ltd.,	M/s R.R. Stones (P) Ltd., D.No. 22-411/1, Y.S.R. Street, Reddy & Reddy Colony, Kattamanchi, Chittoor, Andhra Pradesh State	4517/PL NR/2014, Dt. 28.11.2014	5.000	21/01/2004	20/01/2024	1/21/2014	1/20/2024	21/01/2004	W	Non captive		N 13-19-36.64576 E 78-23-34.25901	Opencast
79	10211 40264	Dimensional Stone	M/s R.R. Stones (P) Ltd.,	M/s R.R. Stones (P) Ltd., D.No. 22-411/1, Y.S.R. Street, Reddy & Reddy Colony, Kattamanchi, Chittoor, Andhra Pradesh State	4515/PL NR/2014, Dt. 28.11.2014	5.270	21/01/2014	20/01/2024	--	--	07/01/2015	W	Non captive		N 13-19-47.30568 E 78-24-31.55432	Opencast

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							From	To	From	To						
80	10211 90573	Quartz	Sri Chinna pullareddy	Sri Chinna pullareddy, S/o G. Chinnapulla Reddy, D.No. 1/285, Kothapalli (V), Pendlimarri M, Kadapa Dist - 516216	562/R5-1/2017, dt. 01-01-2019	9.810	04/02 /2019	03/02/ 2039	--	--	04/02/ 2019	W	Non capti ve	SEIAA/AP/CTR /MIN/06/2018 /636-1151, dt. 15-10-2018	N 13-49-15.47551 E 78-24-03.26687	Opencast
81	10211 90574	Quartz	Sri S. Sahadeva Reddy	Sri S. Sahadeva Reddy, S/o S. Venkata Reddy, D.No.8E, Chinigepalli (V), Jangavandlapalli (Po), Chinnagottigallu (M), Chittoor District - 517192	3335/D1 3-2/2021, dt. 08-04-2021	6.070	04/02 /2019	03/02/ 2039	--	--	19/04/ 2021	W	Non capti ve	SEIAA/AP/CTR /MIN/06/2018 /637-1150, dt. 15-10-2018		Opencast
82	10212 20612	Quartz	Sri Pochima Reddy Damodhar Reddy	Sri Pochima Reddy Damodhar Reddy, S/o P. Hanumantha Reddy, D.No. 1/2096, Prakash Nagar, Erramukkapalli, Kadapa, Y.S.R. District, A.P.- 516004	7846/D1 3-2/2019, dt. 13-04-2022	4.367	13/05 /2022	12/05/ 2042	--	--	13/05/ 2022	W	Non capti ve	SEIAA/AP/CTR /MIN/10/2020 /2294/170.43/ 167.46, dt. 20-01-2022	N 13-49-15.86599 E 78-24-03.39708	Opencast
83	10212 20613	Quartz	Smt. Abbireddygar i Suvarna	Smt. Abbireddygar i Suvarna, W/o A. Mallikarjuna Reddy, D.No. 39/597-1-1, Aravina Nagar, Patel Road, Kadapa, Y.S.R. District, A.P.- 516002	7845/D1 3-2/2019, dt. 07-04-2022	4.936	13/05 /2022	12/05/ 2042	--	--	13/05/ 2022	W	Non capti ve	SEIAA/AP/CTR /MIN/10/2020 /2289/155.93 & 155.29-200, dt. 22-06-2021	N 13-49-19.28594 E 78-24-01.69067	Opencast
84	10212 20635	Quartz	M/s. Srinidhi Mines & Minerals, Mg.Ptr. Smt. Vanam Sanna Gangamma	M/s. Srinidhi Mines & Minerals, Mg.Ptr. Smt. Vanam Sanna Gangamma, W/o Vanam Chandra, D.No. 1/1542-1, Rajeev Gandhi Nagar, Nagarajupeta, Kadapa, YSR Kadapa District -516002	8130/D1 3-2/2019, dt. 02-09-2022	1.977	06/10 /2022	05/10/ 2042	--	--	06/10/ 2022	W	Non capti ve	SEIAA/AP/CTR /MIN/06/2021 /3216/166.22/ 163.16-841, dt. 27-09-2021	N 13-49-37.90339 E 78-24-15.87933	Opencast

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							From	To	From	To						
85	10220 70198	Quartz	M/s Jai Balaji Mines, Mg. Ptr: Smt M. Revathi	M/s Jai Balaji Mines, Mg. Ptr: Smt M. Revathi, W/o Sri K.J. Mohan, 40, Narasimha Reddiar Nagar, 1st Street, Kodungayur, Chennai - 600 118	20037/R 5- 1/1998, Dt. 28/4/07	2.708	03/09 /2007	02/09/ 2027	--	--	03/09/ 2007	W	Non capti ve		N 13-32- 23.36 E 78-35- 42.60	Opencast
86		Quartz	Smt. Bayana Varsha	Smt. Bayana Varsha, D.No. 39-05-31, Sector-5, Visakhapatnam Urban, Visakhapatnam- 530007	13133/D 13- 2/2021, dt. 09- 06-2022	4.990	12/10 /2022	11/10/ 2042	--	--	12/10/ 2022	W	Non capti ve	SEIAA/AP/CTR /MIN/02/2022 /3963/180.57 178.47, dt. 27-03-2022	N 13-45- 53.87467 E 78-21- 32.07581	Opencast
87		Quartz	Sri Singam Neelakan ta Reddy	Sri Singam Neelakanta Reddy, D.No.4-40, Degalavandlapalli, Tokkolu Village, Siddhout Mandal, YSR Kadapa District - 516002	3193/D1 3- 2/2021, dt. 12- 10-2022	4.963	12/10 /2022	11/10/ 2042	--	--	12/10/ 2022	W	Non capti ve	SEIAA/AP/CTR /MIN/02/2022 /3962/182.53 &179.36, dt. 01-04-2022	N 13-45- 42.76593 E 78-21- 31.82145	Opencast
88	10211 40019	RM&BS	M/s N.P.R. and Company, Mg. Ptr: Smt N. Renuka Reddy	M/s N.P.R. and Company, Mg. Ptr: Smt N. Renuka Reddy, W/o N. Amaranatha Reddy, H. No. 28-16-29-1, NAR Agencies, Bharath Petroleum Corporation Ltd., Madanapalli Road, Kothaindlu, Punganur, Chittoor (Dt)	800/TQL/ PLNR/20 13, Dt. 14.03.20 14	2.000	27/03 /2014	17/01/ 2024	--	--	27/03/ 2014	W	Non capti ve	DEIAA/AP/CTR -74/2017- 77,Dt.04-12- 2017	N 13-32- 28.70204 E 78-33- 20.06795	Opencast
89	10211 80572	RM&BS	Sri S. Shafiulla	Sri S. Shafiulla, S/o S. Mahaboob Saheb, #2-150/1, L.B.S. Road, Piler, Chittoor Dist	3042/Q3/ 2017, dt. 26-05- 2018	2.000	14/11 /2018	13/11/ 2028	--	--	14/11/ 2018	W	Non capti ve	DEIAA/AP/CTR -145/2018- 145, dt.03-04- 2018	N 13-44- 04.81103 E 78-48- 23.00827	Opencast

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							From	To	From	To						
90	10211 90579	RM&BS	Sri N. Harish babu	Sri N. Harish babu, S/o Narappa Somayajilihalli (V&P), Srinivasapuram Taluk, Kolar Dist	5066/Q/ RM&BS/2 017, dt. 23-09-2019	2.853	24/10 /2019	23/10/ 2029	--	--	24/10/ 2019	W	Non capti ve	SEIAA/AP/CTR /MIN/04/2019 /921-712, dt. 06-08-2019	N 13-22- 44.07257 E 78-22- 36.65191	Opencast
91	10212 00586	RM&BS	Sri B. Rahul	Sri B. Rahul, S/o B. Chalapathi Rao, D.No.16-131, Isakanatha Palli, Near Chandra Dairy, Industrial estate, Madanapalli, Chittoor Dist - 517325	5807/Q1/ 2018, dt. 10-06-2020	4.959	10/06 /2020	09/06/ 2030	--	--	10/06/ 2020	W	Non capti ve	SEIAA/AP/CTR /MIN/08/2019 /1200-1495, DT. 25-11-2019	N 13-43- 00.04422 E 78-22- 23.83982	Opencast
92	10212 00597	RM&BS	M/s Mavric & Company, Mg.Ptr. Sri P. Venugopal Reddy	M/s Mavric & Company, Mg.Ptr. Sri P. Venugopal Reddy, C/o T. Sidda Reddy House, D.No. 1-21, Opp. Bharath Kalyanamandapam, Angallu, Chittoor District.	5481/Q1/ 2017, dt. 27-02-2020	4.900	30/11 /2020	29/11/ 2035	--	--	30/11/ 2020	W	Non capti ve	SEIAA/AP/CTR /MIN/08/2019 /1323-139, dt. 07-01-2020	N 13-36- 26.06423 E 78-27- 41.96027	Opencast
93	10212 10595	RM&BS	Sri Gundu Rao S. Pammar	Sri Gundu Rao S. Pammar, S/o Shivappa, Chinchalakatti Karur, Badami Bagalkot, Karnataka - 587206	2301/Q1/ 2018, dt. 08-02-2021	1.024	15/04 /2021	14/04/ 2031	--	--	15/04/ 2021	W	Non capti ve	SEIAA/AP/CTR /MIN/09/2020 /2145-921, dt. 17-12-2020	N 13-36- 02.49280 E 78-30- 48.31767	Opencast
94	10212 10603	RM&BS	C. Jayarami Reddy	C. Jayarami Reddy, S/o C. Akkul Reddy, #3-44, Arikela (Vi & Po), Ramasamudram (M), Chittoor District - 517247, A.P.	3185/Q1/ RMBS/20 19, dt. 30-06-2021	1.870	7/31/ 2021	30/07/ 2031	--	--	31/07/ 2021	W	Non capti ve	SEIAA/AP/CTR /MIN/08/2020 /2041-718, Dt. 08.12.2020	N 13-26- 04.84613 E 78-29- 27.13002	Opencast
95	10212 20608	RM&BS	Sri S.K. Ravindra Reddy	Sri S.K. Ravindra Reddy, S/o A. Krishna Reddy, #88, B Block, 6th cross, Tirumala Nagar, Yelahanka, Bangalore - 560064, Karnataka	2769/Q1/ 2020, dt. 08-02-2022	1.866	18/02 /2022	17/02/ 2032	--	--	18/02/ 2022	W	Non capti ve	SEIAA/AP/CTR /MIN/9/2021/ 3498/169.45/ 166.33, Dt. 06-01-2022	N 13-22- 39.32991 E 78-22- 28.30481	Opencast

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							From	To	From	To						
96	10212 20616	RM&BS	Sri G. Chandrasekhar Reddy	Sri G. Chandrasekhar Reddy, S/o Shankar Reddy, Kothapalli, Jarravaripalli Post, Valmikipuram M, Chittoor District - 517299	5019/Q1/2018, dt. 31-03-2022	2.000	29/04/2022	28/04/2032	--	--	29/04/2022	W	Non capti ve	SEIAA/AP/CTR /MIN/08/2020 /2085-872, dt. 16-12-2020	N 13-38-37.99888 E 78-34-52.40255	Opencast
97	10212 20626	RM&BS	M/s. Sri Sai Lakshmi Stone Crusher, Mg. Ptr: Sri S.V. Subba reddy	Sri S.V. Subba reddy, Mg.Ptr. M/s. Sri Sai Lakshmi Stone Crusher, S/o S. Venkata Reddy, S.No. 3/1, Muthakanavaripalli (V), Kurabalakota (M), Chittoor District - 517280	1352/Q2/RM&BS/2020, dt. 13-05-2022	3.466	17/05/2022	16/05/2037	--	--	17/05/2022	W	Non capti ve	SEIAA/AP/CTR /MIN/3/2021/3092/158.103 & 153.122-383, dt. 28-06-2021	N 13-36-11.66162 E 78-30-41.77751	Opencast
98	10212 20639	RM&BS	Sri D. Balakrishna Reddy	Sri D. Balakrishna Reddy, S/o Reddanna, D.No. 10/7343-A, Kondutipalem, Ravindra Nagar, Madanapalli - 517325, Chittoor District	5082/Q1/2018, dt. 19-04-2022	3.287	20/08/2022	19/08/2032	--	--	20/08/2022	W	Non capti ve	SEIAA/AP/CTR /MIN/02/2020 /1738-278, Dt. 08-07-2020	N 13-38-13.35695 E 78-43-12.78936	Opencast
99		RM&BS	M/s Spoorthy Infra, Partner. Smt. B. Kamakshi, Flat No. 301, 3rd Floor, Haimansh Homes, Near Indian Springs School, 4th Lane, Syamala Nagar, Guntur-522006	M/s Spoorthy Infra, Partner. Smt. B. Kamakshi, Flat No. 301, 3rd Floor, Haimansh Homes, Near Indian Springs School, 4th Lane, Syamala Nagar, Guntur-522006	4907/Q4/2017, dt. 17-11-2018	10.000	28/09/2022	27/09/2037	--	--	28/09/2022	W	Non capti ve	SEIAA/AP/CTR /MIN/05/2018 /500, dt. 14-08-2022	N 13-32-11.5 E 78-24-37.0	Opencast
100	10210 70372	RM&BS	Sri K. Venkataramana	Sri K. Venkataramana, S/o K. Venkatesh, 3-145-9-62, 8th Cross, Prasanthinagar, Madanapalli, Chittoor (Dt)	1884/RQ L/2017, dt.10-07-2023	1.894	17/05/2007	31/03/2023	4/1/2023	3/31/2033	23/09/2023	W	Non capti ve	SEIAA/AP/CTR /MIN/08/2021 /3393/185.26 & 182.23, dt:18-05-2022	N 13-38-32.82950 E 78-34-54.35300	Opencast

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							From	To	From	To						
101	1021150353	Black & Colour Granite	M/s Keerthi Stones, Prop: Sri Shankariah	M/s Keerthi Stones, Prop: Sri Shankariah, Kurabahallidoddi, Kabbala Post, Sathanur, HB, Kanakapura TQ, Ramnagar, Bangalore - 562 112, Karnataka State	9857/R4-1/2015, Dt. 01.06.2015	2.133	22/06/2015	11/02/2027	--	--	22/06/2015	NW	Non capti ve	DEIAA/AP/CTR -9/2016-12, Dt. 04.08.2016	N 13-33-48.4 E 78-36-11.1	Opencast
102	1021060230	Black Granite	M/s J.N. Granites, Prop. G. Janardhan Reddy	M/s J.N. Granites, Prop. G. Janardhan Reddy, S/o G. Jayaram Reddy, Kotalopalli (V), G. Kothapalli post, K.V. Palli (M), Chittoor (Dt), Andhra Pradesh State	12216/R 5-2/05, Dt.01.09.2005	1.000	30/01/2006	29/01/2026	--	--	30/01/2006	NW	Non capti ve			Opencast
103	1021070159	Black Granite	M/s Renuka yellamamba Granites, Prop. Sri. L. Vijay Prasad Reddy	M/s Renuka yellamamba Granites, Prop. Sri. L. Vijay Prasad Reddy, 2-575, Muddanur Road, Pulivendala, Kadapa / D.No. 17-95-1, New East Pet, Punganur Road, Madanapalle, Chittoor (Dt) - 517 325, (A.P) State.	26258/R 5-1/06, Dt.16.12.2006	2.840	13/02/2007	12/02/2027	--	--	13/02/2007	NW	Non capti ve	SEIAA/AP/CTR -212/2013-5352, DT. 25-10-2013		Opencast
104	1021070303	Black Granite	Sri K. Showkath Basha	Sri K. Showkath Basha, S/o K.Giddu Saheb. No. 24/67, Nakkalpatti, Anchoor, Krishnagiri, Tamilnadu State	20215/R 5-1/06, Dt.30.12.2006	2.000	27/02/2007	26/02/2027	--	--	27/02/2007	NW	Non capti ve	DEIAA/AP/CTR -51/2017-54, Dt.04-12-2017		Opencast

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							From	To	From	To						
105	1021070365	Black Granite	M/s Sohan Art & Granite Industry, Prop. M. Sohanlal	M/s Sohan Art & Granite Industry, Prop. M. Sohanlal, S/o S. Mangilal, B.M. Road, Robertsonpet, K.G.F., Kolar District, Karnataka State- 563122	37837/R5-1/2006, Dt.21.12.2006	1.000	14/02/2007	13/02/2027	--	--	14/02/2007	NW	Non capti ve		N 13-25-28.82242 E 78-25-43.53508	Opencast
106	1021080272	Black Granite	Smt G.N. Usha Reddy	Smt G.N. Usha Reddy, No. 51, JSR Gardens, Avalahalli, Anjanapura, Bangalore - 62	39693/R5(1)/2007, Dt.15.12.2007	5.900	11/02/2008	10/02/2028	--	--	11/02/2008	NW	Non capti ve			Opencast
107	1021090042	Black Granite	Sri T. Ekambavan	Sri T. Ekambavan, E5, Industrial Estate, Krishnagiri - 635 001, T.N.	25353/R5-1/09, Dt. 22.07.2009	0.405	18/09/2009	17/09/2029	--	--	18/09/2009	NW	Non capti ve		N 13-47-13.67574 E 78-21-01.56370	Opencast
108	1021090044	Black Granite	Sri A. Krishna	Sri A. Krishna, S/o A. Subbaiah Naidu, Door No. 31/90-1-4-1, Teachers Colony, Kotha Indlu, Punganur Town & Mandal, Chittoor District	29649/R5-1/09, Dt.27.08.2009	2.000	05/09/2009	04/09/2029	--	--	05/09/2009	NW	Non capti ve	SEIAA/AP/CTR-595/2015, Dt. 18.01.2016	N 13-36-26.07785 E 78-42-24.06283	Opencast
109	1021090294	Black Granite	Sri T. Babuannamalaisamy	Sri T. Babuannamalaisamy, S/o D. Thenrajan, # 4/23, P.T.V. Colony, Krishnagiri (Tk & Dist), Tamilnadu State	8527/R5-1/09, Dt. 02.11.09	1.000	16/11/2009	15/11/2029	--	--	16/11/2009	NW	Non capti ve	SEIAA/AP/CTR - 607/2015, Dt.08.02. 2016	N 13-30-32.29648 E 78-28-54.46619	Opencast
110	1021100377	Black Granite	Sri M.A. Muniswamy	Sri M.A. Muniswamy, S/o K.M. Appaiah, No. 15/4, Peddapalli Gangamamba Temple, Newpet, Kuppam - 517425, Chittoor District	6817/R5-1/2007, Dt.19.10.2009	1.000	15/02/2010	14/02/2030	--	--	15/02/2010	NW	Non capti ve		N 13-42-44.41583 E 78-31-29.45527	Opencast

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							From	To	From	To						
11 1	10211 00439	Black Granite	Sri D. Siva Kumar	Sri D. Siva Kumar, S/o D. Srinivasulu, # 212, Prakasam Road, Tirupati, Chittoor (Dt)	1257/R5-1/10, Dt.30.01.2010	2.000	17/02/2010	16/02/2030	--	--	17/02/2010	NW	Non capti ve	SEIAA/AP/CTR -490/2015 4098, Dt. 21.09.2015		Opencast
11 2	10211 10180	Black Granite	M/s N. Srinath Reddy & Co., Mg.Ptr. Sri N. Srinath Reddy	M/s N. Srinath Reddy & Co., Mg.Ptr. Sri N. Srinath Reddy, Near Reliance Petrol Bunk, N.V.R. Layout, Madanapalli - 517 325	12922/R 5-1/2008, Dt.03.06.2008	3.000	03/10/2011	02/10/2031	--	--	03/10/2011	NW	Non capti ve	SEIAA/AP/CTR -532/2015-4088, Dt.21.09.2015	N 13-48-17.42088 E 78-27-31.41690	Opencast
11 3	10211 10504	Black Granite	Sri P.A. Nagaraj	Sri P.A. Nagaraj, S/o P.S. Annaiah, 24, Flat No. 201, Anriya Residency, 6th A Cross, Sadguru Seva Ashram Colony, R.M.V. II nd Stage, Sanjay Nagar, Bangalore - 560 094	28993/R 5-1/2010, Dt.31.12.2010	4.860	23/03/2011	22/03/2031	--	--	23/03/2011	NW	Non capti ve	SEIAA/AP/CTR -507/2015-4062, Dt. 21.09.2015		Opencast
11 4	10211 20150	Black Granite	M/s Bindeep Granites, Prop: Sri K. Viswanath Reddy	Sri K. Viswanath Reddy, Prop: M/s Bindeep Granites, Cherlopalle (V), Thavanampalle (M), Chittoor (Dt)	46855/R 5-1/2010, Dt.26.04.2012	1.781	07/05/2012	06/05/2032	--	--	07/05/2012	NW	Non capti ve	DEIAA/AP/CTR -64/2017-65, Dt.04-12-2017		Opencast
11 5	10211 20440	Black Granite	M/s Meganatham Granites, Prop: Sri S.R. Meganatham	M/s Meganatham Granites, Prop: Sri S.R. Meganatham, # 4-1978/7, Balamurugan Street, Sanjeevini Cross, Durganagar Colony, Chittoor.	44162/R 5-1/2011, Dt.13.08.2012	2.060	17/11/2012	16/11/2032	--	--	17/11/2012	NW	Non capti ve	SEIAA/AP/CTR -166/2013, Dt. 23.10.2013	N 13-42-17.12871 E 78-50-44.41748	Opencast
11 6	10211 20441	Black Granite	M/s Sri Nageswari Granites, Mg. Ptr: Sri S.R.	M/s Sri Nageswari Granites, Mg. Ptr: Sri S.R. Meganatham, D. No. 4-1978, Balamurugan Street, Durganagar Colony,	44837/R 5-1/2007, Dt.13.08.2012	11.528	17/11/2012	16/11/2032	--	--	17/11/2012	NW	Non capti ve	SEIAA/AP/CTR -167/2013, Dt. 23.10.2013	N 13-42-19.00492 E 78-50-10.09476	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temporary working for dispatch etc.,)	Captive/Non-captive	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
			Meganatham	Chittoor.												
117	1021120493	Black Granite	Sri A. Madhu	Sri A. Madhu, S/o K. Abimanan, D.No. 3/80, Koorkampatti, Eriyur Post, Pennagaram (Tk), Dharmapuri (Dt)	14792/R 5-1/2011, Dt.23.05.2012	2.000	13/08/2012	12/08/2032	--	--	13/08/2012	NW	Non captive		N 13-42-26.7 E 78-31-23.4	Opencast
118	1021130055	Black Granite	Sri V. Krishna Kumar Bhargav	Sri V. Krishna Kumar Bhargav, S/o V. Purushotham Sharma, D.No. 1-101, Aleru (V&Po), Peddakothapalli Sub-Post, Mahaboob Nagar District, Andhra Pradesh	15723/R 5-1/2011, Dt. 30.07.2012	0.920	24/01/2013	23/01/2033	--	--	24/01/2013	NW	Non captive	SEIAA/AP/CTR-365/2014-54, Dt.04.04.2015		Opencast
119	1021130056	Black Granite	M/s Brickon Projects, Mg. Ptr: Sri A. Sriman Reddy	M/s Brickon Projects, Mg. Ptr: Sri A. Sriman Reddy, Crescent Manor Apartment, Pent House - 2, Santhi Nagar, Nellore - 524 003	19998/R 5-1/2012, Dt.20.12.2012	3.918	04/01/2013	03/01/2033	--	--	04/01/2013	NW	Non captive	SEIAA/AP/CTR-32/2012-3243, Dt. 18.10.2012		Opencast
120	1021130366	Black Granite	Kum K. Shanmugavalli	Kum K. Shanmugavalli, D/o P. Krishnan, 32B, S.S.V. Sala Road, Melur Town, Madurai (Dt), Tamilnadu - 625 106	38446/R 5-1/2011, Dt. 24.02.2012	5.000	02/01/2013	01/01/2033	--	--	02/01/2013	NW	Non captive	SEIAA/AP/CTR/MIN/11/2019/1399-224, dt. 11-02-2020	N 13-31-57.60301 E 78-38-29.40573	Opencast
121	1021140419	Black Granite	Sri Y. Surendra Reddy	Sri Y. Surendra Reddy, S/o Venkataramana Reddy, Vinayaka Temple Street, Somala (M), Chittoor (Dt)	2354/R5-1/2012, Dt.04-12-2013	2.974	24/02/2014	23/02/2034	--	--	24/02/2014	NW	Non captive	SEIAA/CTR-92/2013-1722, Dt. 14.06.2013		Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temp. working for dispatch etc.,)	Capti ve/ Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
12 2	10211 50349	Black Granite	M/s Digvijay Abrazzives, ptr: Sri Vikram Rathi	M/s Digvijay Abrazzives, ptr: Sri Vikram Rathi, # 21, 11th Cross, Wilson Gardens, Bangalore, Karnataka State - 560 027	11528/R 4- 1/2015, Dt. 12.06.15	1.970	03/07 /2015	19/04/ 2025	--	--	03/07/ 2015	NW	Non capti ve	SEIAA/AP/CTR -211/2013- 3550, Dt. 16.12.2015	N 13-23- 07.20 E 78-23- 36.00	Opencast
12 3	10211 50432	Black Granite	M/s R.R.K. Granites, Prop: Sri R. Rakesh Kumar	M/s R.R.K. Granites, Prop: Sri R. Rakesh Kumar, S/o G. Rajendran, Kammathimmapalli (V), 197.Ramapuram (Po), Gudipala (M), Chittoor (Dt)	51084/R 4- 1/2012, Dt. 17.07.20 15	3.771	10/09 /2015	09/09/ 2035	--	--	10/09/ 2015	NW	Non capti ve	SEIAA/AP/CTR -332/2014- 1147 Dt. 13.01.2015	N 13-36- 00.60099 E 78-38- 47.62366	Opencast
12 4	10211 00375	Black Granite	Sri M.A. Muniswamy	Sri M.A. Muniswamy, S/o K.M. Appaiah, No. 15/46, Peddapalli Gangamamba Temple, Newpet, Kuppam - 517425, Chittoor District	6824/R5- 1/2007, Dt.11.12. 09	2.000	18/05 /2010	17/05/ 2030	--	--	18/05/ 2010	NW	Non capti ve		N 13-42- 31.70543 E 78-30- 44.70878	Opencast
12 5	10211 20163	Black Granite	Sri G. Ramanjaneya Reddy	Sri G. Ramanjaneya Reddy, S/o G. Bayya Reddy, Thadigavandlapalli, H/o Thummarakunta, Peddathippasamudra m (M), Chittoor (Dt)	30938/R 5- 1/2011, Dt.17.02. 2012	4.459	12/04 /2012	11/04/ 2032	--	--	12/04/ 2012	NW	Non capti ve	SEIAA/AP/CTR -583/2015, Dt. 27.11.2015	N 13-42- 29.65580 E 78-09- 54.25608	Opencast
12 6	10211 40308	Black Granite	Kum Sri Shakthi	Kum Sri Shakthi, D/o P. Ramachandra Reddy, S.V. University (Po), No. 335, Church Road, M.R. Palli, Tirupati, Chittoor (Dt) - 517 001	49137/R 5- 1/2010, Dt.30.05. 2014	1.963	14/07 /2014	13/07/ 2034	--	--	14/07/ 2014	NW	Non capti ve	SEIAA/AP/CTR -215/2013, Dt. 25.10.2013		Opencast
12 7	10211 40309	Black Granite	Kum Sri Shakthi	Kum Sri Shakthi, D/o P. Ramachandra Reddy, S.V. University (Po), No. 335, Church Road,	49135/R 5- 1/2010, Dt.30.05. 2014	1.435	14/07 /2014	13/07/ 2034	--	--	14/07/ 2014	NW	Non capti ve	SEIAA/AP/CTR -214/2013, DT. 25.10.2013		Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temp. working for dispatch etc.,)	Capti ve/Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
				M.R. Palli, Tirupati, Chittoor (Dt) - 517 001												
128	1021140310	Black Granite	Kum Sri Shakthi	Kum Sri Shakthi, D/o P. Ramachandra Reddy, S.V. University (Po), No. 335, Church Road, M.R. Palli, Tirupati, Chittoor (Dt) - 517 001	49136/R 5-1/2010, Dt.30.05.2014	1.111	14/07/2014	13/07/2034	--	--	14/07/2014	NW	Non capti ve	SEIAA/AP/CTR -213/2013, DT. 25.10.2013		Opencast
129	1021070270	Colour Granite	M/s S.V. Granites, Propx: Smt B. Sreelatha	Smt B. Sreelatha, Prop. M/s S.V. Granites, 16-621-B-1-, Sheshappathota, Madanapalli	41266/R 5-1/2006, Dt.14.02.2007	4.000	13/04/2007	12/04/2027	--	--	13/04/2007	NW	Non capti ve			Opencast
130	1021100341	Colour Granite	Sri S.M. Govindaraju	Sri S.M. Govindaraju, S/o Late S.T. Mudalappa, D.No. 13/M. Jayanagar 1st Block, Lalbagh Siddapura, Bangalore - 560 001	48290/R 5-1/2009, Dt. 16.02.2010	2.000	04/03/2010	03/03/2030	--	--	04/03/2010	NW	Non capti ve		N 13-39-00.61606 E 78-22-08.81338	Opencast
131	1021110457	Colour Granite	M/s NAVAA STONES, Mg. Ptr: Sri S. Senthil Kumar	Sri S. Senthil Kumar, S/o P. Sengottuvelu, Mg. Ptr: M/s NAVAA STONES, NO. 37, Dhamodaram Street, No. 9, Doron Complex, T.Nagar, Chennai-600 017, Tamilnadu State	20005/R 4-1/2012, Dt. 10.12.2014	3.000	23/04/2015	24/01/2031	--	--	23/04/2015	NW	Non capti ve	DEIAA/AP/CTR -84/2017-81, DT. 04-12-2017		Opencast
132	1021120414	Colour Granite	M/s Chethana Lakshmi Granites, Prop: Sri P. Vijayasekhar	Sri P. Vijayasekhar, Prop: M/s Chethana Lakshmi Granites, S/o P. Venkataramana, # 18-4-111/14, 2nd Cross, Railway Colony, Tirupati, Chittoor (Dt)	41222/R 5-1/2011, Dt.26.07.2012	2.000	25/08/2012	24/08/2032	--	--	25/08/2012	NW	Non capti ve	SEIAA/AP/CTR -171/2013-4576, Dt.23.10.2013	N 13-49-40.81839 E 78-22-14.23322	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temp. working for dispatch etc.,)	Capti ve/Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
13 3	10211 20492	Colour Granite	M/s A.B. Enterprises, Prop: Sri Allah Bakshu	M/s A.B. Enterprises, Prop: Sri Allah Bakshu, D.No. 27, Muniswamyppa Road, M.R. Palem, J.C. Nagar, Bangalore - 06, Karnataka State	26415/R 5-1/2010, Dt.04.04.2012	1.755	06/08/2012	05/08/2032	--	--	06/08/2012	NW	Non capti ve	SEIAA/AP/CTR -392/2014, Dt. 09.10.2015		Opencast
13 4	10211 30147	Colour Granite	M/s Pokarna Limited	M/s Pokarna Limited, No. 105, Surya Towers, S.P. Road, Secunderabad - 500 003	01098/R 5-1/2013, Dt.03.10.2013	1.908	26/11/2013	25/11/2033	--	--	26/11/2013	NW	Non capti ve	SEIAA/AP/CTR -105/2013, DT.10.07.2013	N 13-57-01.65246 E 78-26-40.68308	Opencast
13 5	10211 50348	Colour Granite	M/s Digvijay Abrazzives, ptr: Sri Vikram Rathi	M/s Digvijay Abrazzives, ptr: Sri Vikram Rathi, # 21, 11th Cross, Wilson Gardens, Bangalore, Karnataka State - 560 027	11529/R 4-1/2015, Dt. 12.06.2015	2.000	11/08/2004	10/08/2024	--	--	03/07/2015	NW	Non capti ve	SEIAA/AP/CTR -217/2013-5351, Dt. 16-12-2015 (Name Change)	N 13-23-10.50 E 78-23-34.70	Opencast
13 6	10211 50423	Colour Granite	Smt Komathi	Smt Komathi, W/o R. Lokanath, Thirumala Nilaya, Kundur Cross, Belagumba Road, Tumkur - 572 104, Karnatka State.	35593/R 5-1/2011, Dt. 27.04.2013	1.479	22/07/2015	21/07/2035	--	--	22/07/2015	NW	Non capti ve	SEIAA/AP/CTR -54/2013-307, Dt. 10.04.2013		Opencast
13 7	10211 60514	Colour Granite	M/s Sri Bhagyalakshmi Enterprises, Prop: Sri M. Avinash	Sri M. Avinash, Prop. M/s Sri Bhagyalakshmi Enterprises, S/o B. Munegowda, D.No. 11, Jogahalli Village, Sadahalli Post, Devanahalli Taluk, Bangalore - 562 110, Karnataka State	7340/R5-1/2010, Dated: 06-07-2016	2.913	05/08/2016	04/08/2036	--	--	05/08/2016	NW	Non capti ve	SEIAA/AP/CTR /596/2015, Dt. 18.01.2016	N 13-46-12.7 E 78-33-00.4	Opencast
13 8	10211 70548	Colour Granite	M/s Tejaswi Granites. Mg.Ptr. Sri. Rakshith V. Jadav	M/s Tejaswi Granites. Mg.Ptr. Sri. Rakshith V. Jadav, JC Extension Church Road, Near MH School, Kanakapura Taluk, Ramnagar	3001/D1 3-2/2022, dt. 15-06-2022	3.000	12/07/2017	11/07/2037	--	--	12/08/2022	NW	Non capti ve	SEIAA/AP/CTR /MIN/01/2016 /17, dt. 31-10-2016	N 13-30-41.62724 E 78-30-06.72819	Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temporary working for dispatch etc.,)	Capti ve/ Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
				District, Karnataka State - 562117												
139	1021180576	Colour Granite	Sri G.K. Thulasiraman	Sri G.K. Thulasiraman, S/o Late G. Krishnamurthy, H.No. 17-171, Kumara Street, Chittoor District - 517001	12698/R 5-1/2017, dt.28-06-2018	2.610	22/12/2018	21/12/2038	--	--	22/12/2018	NW	Non capti ve	DEIAA/AP/CTR -133/2018-13, dt.03-04-2018	N 13-35-38.5 E 78-28-15.2	Opencast
140	1021140084	Colour Granite	M/s Madhucon Granites Limited	M/s Madhucon Granites Limited, H.No. 1-7-70, Madhu Complex, Jublipura, Khammam - 507 003	1076/R4-1/2014, Dt.13.08.2014	3.000	17/09/2014	18/10/2029	--	--	17/09/2014	NW	Non capti ve	SEIAA/AP/CTR -203/2013, Dt. 04.04.2015	N 13-30-24.76072 E 78-30-40.84000	Opencast
141	1021160522	Colour Granite	M/s Pearl Granites, Mg.Ptr. Smt. Banka Prasanna Kumari	M/s Pearl Granites, Mg.Ptr. Smt. Banka Prasanna Kumari, 1-125, Kuppalapalli (V), Vempalli (M), YSR Kadapa District - 516350	11801/R 5-1/2011, Dt. 27.03.2016	5.000	01/06/2022	20/05/2036	--	--	21/05/2016	NW	Non capti ve	SEIAA/AP/CTR /473/2015-2974, Dt. 03.08.2015	N 13-30-17.99943 E 78-29-55.32048	Opencast
142	1021220641	Colour Granite	Sri Makineni Venkatar amanaiah	Sri Makineni Venkatar amanaiah, S/o Narasaiah, H.No. 18/37- Ckaturivaripalem (V), Podili (M), Prakasam District - 523240	6778/D1 3-2/2019, dt. 28-03-2022	4.945	25/05/2022	24/05/2042	--	--	25/05/2022	NW	Non capti ve	SEIAA/AP/CTR /MIN/02/2021 /2953/163.13 9&160.116-639, Dt. 31-08-2021	N 13-57-50.50390 E 78-26-46.93711	Opencast
143	1022060196	Quartz	Sri S.T.G. Gangadharan	Sri S.T.G. Gangadharan, S/o S.T.Ganapathi, 32, Nammalwar Street, Sowcarpet, Chennai - 79	35635/R 5(1)/04, Dt.06.01.2006	1.336	22/04/2006	21/04/2026	--	--	22/04/2006	NW	Non capti ve			Opencast

S. N O	Lease ID	Name of the Mineral	Name of the Lessee	Address & Contact No. of the Lessee	Mining Lease Grant Order No. & Date	Area of mining lease (ha)	Period of Mining Lease (Initial)		Period of Mining Lease (1st & 2nd ...renewal)		Date of commencement of Mining Operation	Status (Working/non-working/Temporary working for dispatch etc.,)	Capti ve/Non-capti ve	Obtained environmental clearance (YES/No), if Yes Letter No. with date of grant of EC	Location of the Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/U nderground)
							From	To	From	To						
144	1021090322	RM&BS	M/s S.S. Stone Crushers, Propx: Smt M.V.R. Manjula	Smt M.V.R. Manjula, Proptx: M/s S.S. Stone Crushers, D. No. 15-5D, R.R.N. Colony, Madanapalli, Chittoor District - 517325	1610/Q/P LNR/09, Dt. 08-10-09	2.000	12/11/2009	11/11/2024	--	--	12/11/2009	NW	Non capti ve		N 13-38-34.8 E 78-35-03.3	Opencast
145	1021090354	RM&BS	M/s Srinivasa Stone Crusher, Prp: Sri A. Rajasekhar	Sri A. Rajasekhar, Prop: M/s Srinivasa Stone Crusher, S/o A. Chengappa, Pulavandlapalli -V, Madanapalli M, Chittoor (Dt)	745/Q/PL NR/09, Dt.28.05.2009	1.916	22/07/2009	21/07/2024	--	--	22/07/2009	NW	Non capti ve		N 13-38-39.49979 E 78-35-04.79701	Opencast
146	1021090177	RM&BS	M/s PLR Projects Pvt Ltd, Mg.Ptr. Smt. Peddireddi Swarnalatha	M/s PLR Projects PVT Ltd, Mg.Ptr. Smt. Peddireddi Swarnalatha, H.No. 1-97, Errathivaripalli (V), Sodam (M), Chittoor District - 517123	3667/TQ L/RM&BS /2021, dt. 31-03-2022	2.000	03/08/2009	02/08/2024	--	--	17/06/2022	NW	Non capti ve		N 13-38-36.95257 E 78-14-08.94757	Opencast
147	1021070314	Black Granite	M/s Jey R Impex, Prop. R. Girish	M/s Jey R Impex, Prop. R. Girish, S/o S. Rajamanikyam, No. 24, Thupash Street, Tiruvilanthur, Mailaduthurai, Nagai - 609 001	12519/R-5/2006, Dt.14.10.2006	2.000	16/04/2007	15/04/2027	--	--	16/04/2007	NW	Non capti ve		N 13-53-43.61754 E 78-17-52.58190	Opencast

Data Source: District Mines and Geology Officer, Annamayya District

Table 16 Detailed List of statement showing the LoI for Minor Minerals in Annamayya District

S.NO	Name of the Mineral	Name of the Lessee	Address & Contact No. of Letter of Intent Holder	Letter of Intent Grant order No. & Date	Area of Mining lease to be allotted	Validity of LoI	Use (Captive/Non-captive)	Location of the Mining lease (Latitude & Longitude)
1	2	3	4	5	6	7	8	9
1	Clay	Sri Ganta Minerals	H.No.3/27, Brahmin Street, Nandalur Village and Mandal, Annamayya District 9491422753	13942/2018 19.07.2019	7.147	--	Non-captive	14° 17'28.1487"N 79° 19' 07.2145"E
2	Clay	Sri Ganta Minerals	H.No.3/27, Brahmin Street, Nandalur Village and Mandal, Annamayya District 9491422753	13942/2018 19.07.2019	4.870	--	Non-captive	14° 17'28.1487"N 79° 19' 07.2145"E
3	Clay	M/s GPR Mines & Minerals: G Chinna Pulla Reddy.	Near Police Station, Beside APGB Bank, Pendlimarri Village & Mandal, Y.S.R. District 9949902841	4174/2019 20.09.2019	9.623	--	Non-captive	14° 14'26.7"N 79° 07' 53.7"E
4	Pyrophyllite	Sri S.Rajasekhar Raju	H.No.32-47, BG Rachapalli Village, T.sundupalli Mandal, Annamayya District 9848266861	1785/2019 21.11.2019	3.297	--	Non-captive	14° 16'09.32329"N 78° 37' 03.89901"E
5	Quartz	Sri S.Rajasekhar Raju	H.No.32-47, BG Rachapalli Village, T.sundupalli Mandal, Annamayya District 9848266861	1785/2019 08.12.2019	3.783	--	Non-captive	14° 07'18.88313"N 78° 31' 12.23726"E
6	Pyrophyllite	Smt Abbireddygarri Survana	H.No.39/597-7-1, Aravinda Nagar, Kadapa	3236/2019 02.12.2019	2.410	--	Non-captive	14° 05'57.47584"N 78° 35' 33.83545"E
7	Colour Granite	Barugu Reddi Padmaja	No.8/40, Prakash Nagar Colony, P.N.Colony, Motakatla Village, Sambepalli Mandal, Annamayya District 9642030506	2947/2020 15.10.2020	4.000	--	Non-captive	13° 58' 23.5459"N 78° 43' 55.2681"E
8	Quartz	M/s DVS Mines & Minerals, D.Mallikarjuja	H.No.1-New House, Vellatur (V), Pendlimarri (M), YSR Dist 9550033179	30519/2016 19.07.2021	3.781	--	Non-captive	14° 04'22.92189"N 79° 19' 27.51725"E
9	Quartz	M/s Global Mines & Minerals	D.No.C26, Prudhvi Adithya Dwaraka Villas KLD Road, Ananthapuram Rural & Dist 9963294922	7941/2019 17.09.2021	11.000	--	Non-captive	14° 06'01.52225"N 78° 32' 05.31042"E
10	Pyrophyllite	M/s Sai	D.No.8-1-284-OU/282, OU	4765/2021	10.000	--	Non-captive	14° 16'12.43506"N

S.NO	Name of the Mineral	Name of the Lessee	Address & Contact No. of Letter of Intent Holder	Letter of Intent Grant order No. & Date	Area of Mining lease to be allotted	Validity of LoI	Use (Captive/Non-captive)	Location of the Mining lease (Latitude & Longitude)
	& Quartz	Rachana Minerals OPC Pvt Ltd	Colony, Shaikpet, Hyderabad 9246843439	03.01.2022				78° 36' 53.06486"E
11	Colour Grantie	Sri T.Samiulla	#41, 3rd Main, Jayakumar Layout, Bank Colony, Konakunte, Doddakallasandra, Banglore, 9845415578	1837/2019 05.07.2019	3.801	--	Non-captive	13° 46' 55.42291"N 78° 36' 38.80009"E
12	Colour Grantie	Sri T.Samiulla	#41, 3rd Main, Jayakumar Layout, Bank Colony, Konakunte, Doddakallasandra, Banglore, 9845415578	1836/2019 05.07.2019	7.748	--	Non-captive	13° 46' 51.60068"N 78° 37' 13.11412"E
13	Quartz	M/s Sri Lakshmi Mines and Minerals	D.No.43/161-1-1, ARP Colony, Prakash Nagar, Kadapa, YSR Dist 8919850152	2612/2020 22.06.2020	4.990	--	Non-captive	13° 48' 43.37489"N 78° 38' 48.16439"E
14	Colour Grantie	Sri P.Venkateswarlu Reddy	D.No.2-85/1, Guru Nagar Colony, Chittoor District 8978386599	7301/2018 05.11.2020	5.978	--	Non-captive	13° 51' 43.79289"N 78° 51' 50.76902"E
15	Quartz	Sri D.Suresh Babu	D.NO.15-5-16-6, Reddappa Naidu Colony, Madanapalli, Annamayya District	6670/2021 10.03.2022	4.947	--	Non-captive	13° 43' 37.28617"N 78° 58' 32.27804"E
16	Colour Granite	M/s Shri Maruthi Granites Inida Private Limited	8/13, 1st Main Road, 2nd Cross, 1st Stage, KHB Colony, Basaveswaranagar, Banglore North (M), Karnataka 9008844599	1847/2019	2.579	--	Non-captive	13° 48' 20.91766"N 78° 42' 47.94451"E
17	RM&BS	Sri.K.Chenna Reddy	D.NO.1/40, Nallaguttapalli Village, Ramapuram Mandal, Annamayya Dist 9848658593	4074/Q1/2017-2 21-12-2018	2.000	--	Non-captive	14° 02' 35.0"N 78° 49' 47.8"E
18	RM&BS	M/s. Sri Ganga Metals, Mg.Ptr: Sri P.Raghunatha Reddy	H.NO.39/477, Aravinda Nagar, Kadapa, Y.S.R. District Ph.No.9959008464	2767/Q1/2018-209-07-2018	4.180	--	Non-captive	14° 16' 15.3"N 78° 41' 36.0"E
19	RM&BS	Sri M. Raja Sekhar Naidu	Bavulakadapalli, S.Somavaram Village, Guttapalli Post, Sambepalli	2116/Q1/2019 08-08-2019	1.199	--	Non-captive	14° 00' 26.25242"N 78° 45' 24.05609"E

S.NO	Name of the Mineral	Name of the Lessee	Address & Contact No. of Letter of Intent Holder	Letter of Intent Grant order No. & Date	Area of Mining lease to be allotted	Validity of LoI	Use (Captive/Non-captive)	Location of the Mining lease (Latitude & Longitude)
			Mandal, Annamayya Dist 9703379781					
20	RM&BS	Sri M. Raja Sekhar Naidu	Bavulakadapalli, S.Somavaram Village, Guttapalli Post, Sambepalli Mandal, Annamayya Dist 9703379781	2115/QL/2019 08-08-2019	0.984	--	Non-captive	14° 00' 26.25242"N 78° 45' 24.05609"E
21	RM & BS and Gravel	Sri Derangula Narayana	D.No.3/44, Boreddygaripalli Post, Pulikunta Village, Galiveedu Mandal, Annamayya Dist	3133/Q1/2019 20-12-2019	3.882	--	Non-captive	14° 11' 45.56966"N 78° 39'54.26677"E
22	RM&BS and Ballast	Sri N. Uday Kumar Reddy	24/28, Vattamvandlapalli Village, Devapatla Village, Sambepalli Mandal, Annamayya District Ph.No.8897861635	906/Q1/2021 11-05-2021	3.000	--	Non-captive	13° 55' 54.82426"N 78° 45' 47.06827"E
23	RM&BS	M/s. AB Mines and Minerals Pvt Ltd , MD: S.B Arshad Basha	H.No.19/420, Ustairs, S.F.S. Street, Kadapa- 516001, YSR District Ph.No.9666635410	1102/Q1/2021 29-05-2021	6.928	--	Non-captive	14° 11' 49.55811"N 78° 39' 48.18286"E
24	RM&BS	Sri C Nagarjuna Reddy	D.NO.1/44, H.Kothapalli Village, Cherlopalli Post, Rajampet Mandal, Annamayya Dist Ph.No. 9000000635	3392/Q/2021 31-12-2021	1.110	--	Non-captive	14° 10' 54.85670"N 79° 06' 23.95010"E
25	RM&BS	Sri C Srinivasulu Reddy	D.NO.1/44, H.Kothapalli Village, Cherlopalli Post, Rajampet Mandal, Annamayya Dist Ph.No. 9000000635	3391/Q/2021 31-12-2021	1.750	--	Non-captive	14° 10' 55.89241"N 79° 06' 29.41390"E

Data Source: District Mines and Geology Officer, Annamayya District

2.4 Details of Royalty in last 3 years

The royalty of last three years in the Annamayya district detailed list is given in Table-17.

Table 17 Details of Royalty in last 3 years

Royalty for 2022-23 (ANNAMAYYA OFFICE)

S. No.	Mineral	Royalty (in Rs. Lakhs)	Consideration Amt. (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
1	Black Granite	40.413	20.2065	5.052	0.808
2	Building Stone	0.585	0.585	0.176	0.012
3	China Clay (Crude)	39.6	39.6	11.88	0.792
4	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	118.811	59.4055	14.851	2.376
5	Clay others	58.486	58.486	17.546	1.17
6	Colour Granite (Others)	101.178	50.589	12.639	2.022
7	Gravel	2.25	2.25	0.675	0.045
8	Grey Barytes - A	5818.493	5818.493	1745.548	116.37
9	Grey Barytes - B	1258.937	1258.937	377.681	25.179

10	Grey Barytes - C and D	2738.217	2738.217	821.465	54.764
11	Kerbs	0.135	0.135	0.041	0.003
12	Laterite (Cement)	6.11	6.11	1.833	0.122
13	Marble	0.178	0.178	0.054	0.004
14	Ordinary Earth	2.259	2.259	0.678	0.045
15	Pyrophyllite	1.06	1.06	0.318	0.021
16	Quartz	49.512	49.512	14.854	0.99
17	Road Metal	58.57	58.57	17.571	1.171
TOTAL		10295	10165	3043	206

Data Source: District Mines and Geology Officer, Annamayya District

Royalty for 2022-23 (MADANAPALLE OFFICE)

S. No.	Mineral	Royalty (in Rs. Lakhs)	Consideration Amt. (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
1	Black Granite	96.445	48.2225	12.056	1.929
2	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	121.731	60.8655	15.208	2.433
3	Colour Granite (Others)	360.263	180.1315	45.017	7.203

S. No.	Mineral	Royalty (in Rs. Lakhs)	Consideration Amt. (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
4	Cubes	42.868	42.868	12.855	0.857
5	Kerbs	18.853	18.853	5.656	0.377
6	Ordinary Earth	45	45	13.5	0.9
7	Quartz	51.593	51.593	15.478	1.032
8	Road Metal	11.267	11.267	3.38	0.225
TOTAL		748	459	123	15

Data Source: District Mines and Geology Officer, Annamayya District

Royalty for 2021-22 (ANNAMAYYA OFFICE)

S. No.	Mineral	Royalty (in Rs. Lakhs)	Consideration Amt. (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
1	Black Granite	37.472	9.368	4.684	0.749
2	China Clay (Crude)	41.7	20.85	12.51	0.834
3	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	129.319	32.32975	16.165	2.586
4	Clay others	23.559	11.7795	7.068	0.471

S. No.	Mineral	Royalty (in Rs. Lakhs)	Consideration Amt. (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
5	Colour Granite (Others)	67.571	16.89275	8.084	1.293
6	Cubes	0.257	0.1285	0.077	0.005
7	Grey Barytes - A	5589.883	2794.9415	1676.965	111.798
8	Grey Barytes - B	1446.59	723.295	433.977	28.932
9	Grey Barytes - C and D	1649.424	824.712	494.827	32.988
10	Laterite (Cement)	0.657	0.3285	0.197	0.013
11	Marble	1.111	0.5555	0.333	0.022
12	Marble	0.063	0.0315	0.019	0.001
13	Pyrophyllite	0.6	0.3	0.18	0.012
14	Quartz	40.202	20.101	12.061	0.804
15	Road Metal	32.045	16.0225	9.614	0.641
TOTAL		9060	4472	2677	181

Data Source: District Mines and Geology Officer, Annamayya District

Royalty for 2021-22 (MADANAPALLE OFFICE)

S. No.	Mineral	Royalty (in Rs. Lakhs)	Consideration Amt. (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
1	Black Granite	114.668	28.667	14.329	2.293
2	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	105.392	26.348	13.174	2.108
3	Colour Granite (Others)	461.465	115.36625	57.667	9.227
4	Cubes	36.599	18.2995	10.98	0.732
5	Kerbs	59.38	29.69	17.814	1.188
6	Quartz	42.953	21.4765	12.886	0.859
7	Road Metal	10.896	5.448	3.269	0.218
8	Road Metal	0.012	0.006	0.004	0
TOTAL		831	245	130	17

Data Source: District Mines and Geology Officer, Annamayya District

Royalty for 2020-21 (ANNAMAYYA OFFICE)

S. No.	Mineral	Royalty (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
1	Black Granite	19.25	2.406	0.385
2	China Clay (Crude)	24.33	7.299	0.487

S. No.	Mineral	Royalty (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
3	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	185.241	23.155	3.705
4	Clay others	14.867	4.46	0.297
5	Colour Granite (Others)	77.286	9.661	1.546
6	Cubes	0.486	0.146	0.01
7	Grey Barytes - A	3639.336	1091.801	72.787
8	Grey Barytes - B	331.579	99.474	6.632
9	Grey Barytes - C and D	733.898	220.169	14.678
10	Kerbs	3.969	1.191	0.079
11	Laterite (Cement)	0.45	0.135	0.009
12	Pyrophyllite	6.87	2.061	0.137
13	Quartz	62.675	18.803	1.254
14	Road Metal	84.505	25.351	1.69
TOTAL		5185	1506	104

Data Source: District Mines and Geology Officer, Annamayya District

Royalty for 2020-21 (MADANAPALLE OFFICE)

S. No.	Mineral	Royalty (in Rs. Lakhs)	DMF (In Rs. Lakhs)	MERIT (in Rs. Lakhs)
1	Black Granite	121.329	15.166	2.427
2	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	80.41	10.051	1.608
3	Colour Granite (Others)	520.819	65.102	10.416
4	Cubes	36.636	10.991	0.733
5	Kerbs	17.001	5.1	0.34
6	Quartz	7.092	2.128	0.142
7	Road Metal	12.179	3.654	0.244
TOTAL		795	112	16

Data Source: District Mines and Geology Officer, Annamayya District

2.5 Details of Production in last 3 years

Production of last three years in the Palnadu district details is given in Table-18.

Table 18 Details of Production in last 3 years

Production for 2022-23 (ANNAMAYYA OFFICE)

S. No.	Mineral	Unit	Production (in MT)
1	Black Granite	Cubic Meter	1791.894
2	Building Stone	Cubic Meter	650

S. No.	Mineral	Unit	Production (in MT)
3	China Clay (Crude)	MT	64103.4
4	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	Cubic Meter	7719.986
5	Clay others	MT	96362.45
6	Colour Granite (Others)	Cubic Meter	4089.681
7	Gravel	Cubic Meter	5000
8	Grey Barytes - A	MT	1212186
9	Grey Barytes - B	MT	354626.95
10	Grey Barytes - C and D	MT	1244640.05
11	Kerbs	MT	100
12	Laterite (Cement)	MT	1347
13	Marble	Cubic Meter	56.484
14	Ordinary Earth	Cubic Meter	0
15	Pyrophyllite	MT	530
16	Quartz	MT	54768
17	Road Metal	Cubic Meter	63382

Data Source: District Mines and Geology Officer, Annamayya District

Production for 2022-23 (MADANAPALLE OFFICE)

S. No.	Mineral	Unit	Production (in MT)
1	Black Granite	Cubic Meter	3569.967
2	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	Cubic Meter	7623.918
3	Colour Granite (Others)	Cubic Meter	14004.853
4	Cubes	MT	31729
5	Kerbs	MT	13965
6	Ordinary Earth	Cubic Meter	100000
7	Quartz	MT	57283
8	Road Metal	Cubic Meter	10637

Data Source: District Mines and Geology Officer, Annamayya District

Production for 2021-22 (ANNAMAYYA OFFICE)

S. No.	Mineral	Unit	Production (in MT)
1	Black Granite	Cubic Meter	1689.537
2	China Clay (Crude)	MT	69500
3	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	Cubic Meter	7391.176

S. No.	Mineral	Unit	Production (in MT)
4	Clay others	MT	39261.71
5	Colour Granite (Others)	Cubic Meter	2673.12
6	Cubes	MT	190
7	Grey Barytes - A	MT	1164525.5
8	Grey Barytes - B	MT	407487.7
9	Grey Barytes - C and D	MT	749738
10	Laterite (Cement)	MT	606
11	Marble	Cubic Meter	365.51
12	Marble	MT	44.6
13	Pyrophyllite	MT	0
14	Quartz	MT	44409
15	Road Metal	Cubic Meter	34575

Data Source: District Mines and Geology Officer, Annamayya District

Production for 2021-22 (MADANAPALLE OFFICE)

S. No.	Mineral	Unit	Production (in MT)
1	Black Granite	Cubic Meter	4179.69
2	Chittoor Colour Granite (Other than silver-waves,	Cubic Meter	6737.316

	Madanapalli white and Iscon white)		
3	Colour Granite (Others)	Cubic Meter	17857.028
4	Cubes	MT	26967
5	Kerbs	MT	43985
6	Quartz	MT	47464.95
7	Road Metal	Cubic Meter	11300
8	Road Metal	MT	20

Data Source: District Mines and Geology Officer, Annamayya District

Production for 2020-21 (ANNAMAYYA OFFICE)

S. No.	Mineral	Unit	Production (in MT)
1	Black Granite	Cubic Meter	852.6
2	China Clay (Crude)	MT	40550
3	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	Cubic Meter	10061.309
4	Clay others	MT	24778
5	Colour Granite (Others)	Cubic Meter	3136.556
6	Cubes	MT	360
7	Grey Barytes - A	MT	758134.75
8	Grey Barytes - B	MT	93375.3

S. No.	Mineral	Unit	Production (in MT)
9	Grey Barytes - C and D	MT	333592.8
10	Kerbs	MT	2834
11	Laterite (Cement)	MT	600
12	Pyrophyllite	MT	3434
13	Quartz	MT	69130
14	Road Metal	Cubic Meter	93177

Data Source: District Mines and Geology Officer, Annamayya District

Production for 2020-21 (MADANAPALLE OFFICE)

S. No.	Mineral	Unit	Production (in MT)
1	Black Granite	Cubic Meter	4462.718
2	Chittoor Colour Granite (Other than silver-waves, Madanapalli white and Iscon white)	Cubic Meter	4967.724
3	Colour Granite (Others)	Cubic Meter	20292.47
4	Cubes	MT	27004
5	Kerbs	MT	12593
6	Quartz	MT	7880
7	Road Metal	Cubic Meter	13531

Data Source: District Mines and Geology Officer, Annamayya District

2.6 Impact on environment

The extraction and utilization of minor minerals have become integral to our modern way of life, fueling infrastructure development, construction, and various industries. However, the impact of these activities on the environment cannot be underestimated. Minor minerals, which include granite, road metal, gravel, clay, and more, play a significant role in shaping the natural landscape and ecosystems. The various environmental consequences associated with the extraction and uses of minor minerals are:

- i. **Habitat Destruction:** The mining of minor minerals often entails the removal of topsoil and vegetation, leading to habitat destruction. This can disrupt ecosystems, displace wildlife, and threaten the survival of numerous species. Loss of biodiversity is a significant concern in regions with extensive mining operations.
- ii. **Land Degradation:** Mining activities can lead to land degradation, including soil erosion and compaction. This not only reduces the land's fertility but also affects its ability to support agriculture and vegetation growth. Moreover, land degradation can contribute to increased vulnerability to natural disasters like floods.
- iii. **Water Pollution:** Mining operations can contaminate nearby water bodies through the discharge of sediments, chemicals, and heavy metals. This pollution can have detrimental effects on aquatic life, disrupt local hydrology, and compromise the quality of water available for human consumption.
- iv. **Air Quality:** Dust emissions from mining sites can deteriorate air quality in surrounding areas. The fine particles and pollutants released during excavation and transportation of minor minerals can pose health risks to both workers and nearby communities.
- v. **Regulatory Challenges:** Enforcing regulations and monitoring mining activities in remote or unregulated areas can be challenging, allowing illegal and unsustainable practices to persist.

The extraction and utilization of minor minerals are essential for economic development, but they come at a cost to the environment. Recognizing the environmental impacts of these activities is crucial for sustainable resource management.

2.7 Remedial Measures

The provisions of Rule 12 (1) and Rule 12 (5) and of Andhra Pradesh Minor Mineral Concession Rules, 1966 allow the State Government to issue the Letters of Intent with the stipulated conditions to submit Approved Mining Plan (AMP), Environment Clearance (EC) and Consent for Establishment (CFE) for grant of lease.

Mine Plan stipulates the maximum permissible annual production of the mineral from the designated lease area and also includes estimated quantum of solid waste generation and its method of disposal, etc. Based on the Approved Mine Plan projections, Environment Management Plan shall be prepared and SEIAA makes the decision to grant the EC based on the EMP.

Leaseholders commit to all the remedial measures in the Mining Plan and the State Environment Impact Assessment Authority (SEIAA) ensures the remedial measures are being adhered to during the tenure of the Environmental Clearance.

Leaseholders in the district have adopted various remedial measures to mitigate the impact of mining on the environment. These measures aim to reduce the environmental footprint of mining operations and address the associated challenges. Some common practices include:

- i. **Environmental Impact Assessments (EIAs):** Leaseholders conduct comprehensive EIAs to evaluate the potential environmental consequences of mining projects. They shall use this information to develop mitigation strategies.
- ii. **Reclamation and Rehabilitation:** Leaseholders work to restore mined areas by recontouring landscapes, replanting native vegetation, and stabilizing soils to promote ecosystem recovery.

- iii. **Water Management:** Proper management of water resources is crucial. Leaseholders use techniques like sedimentation ponds, water recycling, and water treatment facilities to minimize water pollution and ensure responsible water use.

The following preventive measures are being followed for minimizing adverse effects on water regime:

- Small Gully checks, gully check dams, silt settling tanks, silt traps, etc. shall be constructed.
- Along all discharge points leaving the mining lease, into the surrounding area, suitable number of filter walls of sufficient lengths shall be erected across the flow, at intervals, all along the length to prevent suspended solids entering the surrounding streams/ drains/ water courses, to confine the discharge water quality to the permissible limits.
- Regular monitoring may be carried out and further remedial steps as may be necessary may be taken.

- iv. **Waste Management:** Effective management of mining waste, such as tailings and slag, involves containment in secure facilities to prevent soil and water contamination. Advances in waste disposal technologies are also being explored.

Steps being followed for effective waste management:

- Implementation of practices to minimize waste generation at the source. This involves optimizing extraction techniques, reducing overburden removal, and improving resource utilization.
- Encouraging recycling and reuse of waste materials wherever possible within the mining operation.
- Selection of an appropriate disposal methods based on waste characteristics and environmental considerations. Common methods include land filling, controlled dumping, and backfilling.

- Treatment of contaminated water and effluents using appropriate technologies before discharge.
- v. **Afforestation:** Leaseholders carry out a year-wise afforestation plan for the initial years with detailed costing of each plant, its maintenance per piece, etc.

While these measures represent positive steps toward mitigating environmental impact, it's important to note that the effectiveness of these practices can vary widely depending on factors such as the location, scale, and specific mineral being mined. Continuous improvement and adaptation are essential in the mining industry's ongoing efforts

2.8 Reclamation Measures

As per Rule 7A (ii) of Andhra Pradesh Minor Mineral Concession Rules, 1966, Mine Closure Plan shall be submitted by the leaseholder before 6 months of expiry of the lease in the proforma as prescribed by the Director. The Deputy Director concerned shall approve the mine closure plan and ensure compliance of conditions of the approved mine closure plan before expiry of the lease period.

Financial assurance of Rs.50,000/- (Rupees Fifty Thousand) for the quarry lease granted below five(5) hectares and Rs.10,000/- (Rupees Ten Thousand) per Hectare or part thereof for the quarry lease granted five (5) hectares and above, shall be submitted in the form of deposit. If the leaseholder does not reclaimate the area as mentioned in the Mine Closure Plan, the deposit shall be forfeited, and the Department of Mines & Geology ensure the proper implementation of the Mine Closure Plan.

2.9 Risk Assessment & Disaster Management Plan

Leaseholders conduct comprehensive risk assessment, prepare a model disaster management plan and submit in the Mining Plan.

The leaseholders maintain and arrange following resources at the mine site:

- a) Firefighting equipment
- b) Ambulance services with location
- c) List of volunteer organizations
- d) List of Civil, Police and other authorities to be informed in case of an accident

- e) List of mobile crane operators (Government, Public Sector, and Private Sector).
- f) List of mines, contacts, facility available nearby
- g) List of first aiders and contacts.
- h) List of Officers of DGMS to be informed in case of serious accidents
Concerned DGMS officers concerned is displayed at the mine head.

The leaseholders shall monitor the total execution of the disaster management plan. The resources of all departments including men and material are being promptly made available. They are also conducting regular mock rehearsals with their staff to update the risk register and accordingly, disaster management plan

2.9.1. Mineral Regulatory:

The important functioning of District Mines and geology Officer, Annamayya are:-

1. Achievement of Targets of Mineral Revenue collections being fixed to this office annually
2. Receiving and processing of the Mineral Concession Applications duly conducting the technical inspection, Survey and demarcation of the Mineral bearing applied areas
3. Execution and Regulation of the operations of the Mining / Quarry leases in accordance with the Acts and Rules
4. Issuing of dispatch permits duly collecting the Advance Royalty / Seig.fee from the lease holders on the minerals produced and intend to dispatch from their leased areas through online permit system
5. Controlling the illegal Mining / Quarrying and transportation by conducting the periodical inspections of the Mines and Quarries and also conducting the surprise vehicular checking and imposing the penalties
6. Finalisation of Demand, Collection and Balance statements of the leases on annual basis

2.10 Plantation & Green Belt Development

Leaseholders are complying with the plantation and green belt development programmes as committed in their Mining Plans.

CHAPTER III: SAND

3.1 Sand Mineral Resources of the Annamayya District

3.1.1 General Sand Mineral Details Annamayya District

(Prepared as per Sustainable Sand Mining Management Guidelines 2016 & 2020) (Data Source: Assistant Director of Mines and Geology, Annamayya District, Andhra Pradesh.

The details of the Production of Sand in the district are described in Table-19.

Table 19 Details of Production of Sand in Last three years in the district

Year	Production (In MTs)	Revenue Generated (in Rs)
2020-21	--	--
2021-22	376801	3,31,58,488
2022-23	604316	5,31,79,808

Data Source: District Mines and Geology Officer, Annamayya District

3.1.2 River Basins in Annamayya District

The Pennar river basin mainly covered in Annamayya district, and the remaining part partially covered with Swarnamukhi and Palar basins. The Pennar major river basin divided into three minor river basins i.e., Cheyyeru, Papagni and Lower Pennar.

The important river basin in the district is Cheyyeru. The river rises in Horsely hills, Annamayya district and flows through Chittoor district under the name of the Bahuda river and after being fed by several smaller streams the principal of which is the Pincha river follows through the Sheshachalam hills and merged into Pennar river near Rangayapalle village, Nandalur mandal in Annamayya district.

The Pennar and Palar River basin areas are 8771.33 Sq.km and 194.51 Sq.km in the district. The district having total number of tanks including ponds and minor irrigation tanks 4,340. The district is divided into two major river basins and six minor river basins, further divided into 88 Nos of sub basins and 1,271 Nos of cascades. The Hydrological units of

Annamayya district is shown in Table-20, Drainage system with description of main rivers is shown in Table-21, Salient features and altitudes origin of rivers is shown in Table-22 and rivers lengths of Annamayya district is shown in Table-23.

Table 20 Hydrological units of Annamayya District

S.No	Major Basin	Minor Basin	Catchment Area (Sq.km)	No of. Sub Basins	No of. Cascades	No of. Tanks
1	Palar	Palar	194.51	3	78	250
2	Pennar	Cheyveru	6616.07	57	757	2,969
3		Papagni	1826.59	19	411	1,104
4		Lower Pennar	328.67	7	21	12
5	Swarnamukhi	Swarnamukhi	76.94	2	4	5
Total			9,042.78	88	1,271	4,340

Table 21 Drainage System with Description of main rivers

S.No	Name of the River	Area Drained (Sq.Km)	% of Area Drained in the District
1	Palar	194.60	2.15
2	Cheyveru	6612.92	73.07
3	Papagni	1828.93	20.21
4	Lower Pennar	334.65	3.70
5	Swarnamukhi	76.98	0.85
6	Upputeru	2.22	0.02

Table 22 Salient Features of Important Rivers in Annamayya District

S.No	Name of the River	Place of Origin	Altitude at Origin (m)
1	Pennar	Nandi Hills, Chikballapur District, Karnataka	1,500
2	Cheyzeru	Horsely hills, Mandanapalli mandal, Annamayya District	1,314
3	Papagni	Nandi Hills of Chikkaballapur district in Karnataka	800
4	Swarnamukhi	Pakala RF, Shakumpalli Village, Pakala mandal, Tirupathi district	762
5	Palar	Nandi Hills, Chikballapur district, Karnataka state	800

Table 23 River Lengths in Annamayya District

S.No	Name of the Major Basin	Name of the Minor Basin	Name of the River	River Length in Km
1	Palar	Palar	Kaundinya Nadi	80.01
2	Pennar	Cheyzeru	Alugu Vanka	12.68
3			Bahuda River	114.13
4			Battagundala Vanka	4.12
5			Chavata Vanka	14.67
6			Cheyzeru River	101.96
7			Doddipalli River	20.56
8			Gajula Eru	17.39
9			Ganganeru River	46.30
10			Godimadugu Vanka	8.98

S.No	Name of the Major Basin	Name of the Minor Basin	Name of the River	River Length in Km
11			Gottimani Kona	9.57
12			Gundala Eru	35.01
13			Gundala Kona	9.40
14			Gundala Vanka	10.32
15			Gunjana River	95.32
16			Ippagondi Vanka	7.43
17			Kalikiri Kona	15.07
18			Kalleru Nala	7.08
19			Kammaiahrevu Nadi	3.23
20			Karuku Eru	8.95
21			Maddimanu Kalva	30.07
22			Mandavi River	126.37
23			Marava Kona Vanka	9.27
24			Mushti Eru	14.11
25			Pedda Kona	12.88
26			Peddakona Vanka	3.58
27			Pincha River	115.76
28			Pulang Yeru	78.38
29			Raja Vanka	26.14
30			Rajala Kona	0.98
31			Regada Kalva	21.57
32			Satyavathi River	14.56
33			Talakona Eru	9.12
34			Tandakula Dari	3.50

S.No	Name of the Major Basin	Name of the Minor Basin	Name of the River	River Length in Km
35			Tetti Vanka	24.74
36			Ummitala Eru	18.46
37			Valigatla Nadi	24.49
38			Yerra Vanka	16.16
39		Lower Pennar	Kalleti Vagu	24.74
40			Pedda Vanka	4.14
41		Papagni	Chinna Eru	19.88
42			Chinneru River	21.17
43			Kushavati Eru	24.04
44			Papagni River	166.88
45			Pedda Eru	7.75
46			Pedda Vanka	10.68
47			Pedderu River	67.18
48	Swarnamukhi	Swarnamukhi	Tummuru Kona	28.96
Total				1,547.73

Data source: APSAC, Vijayawada

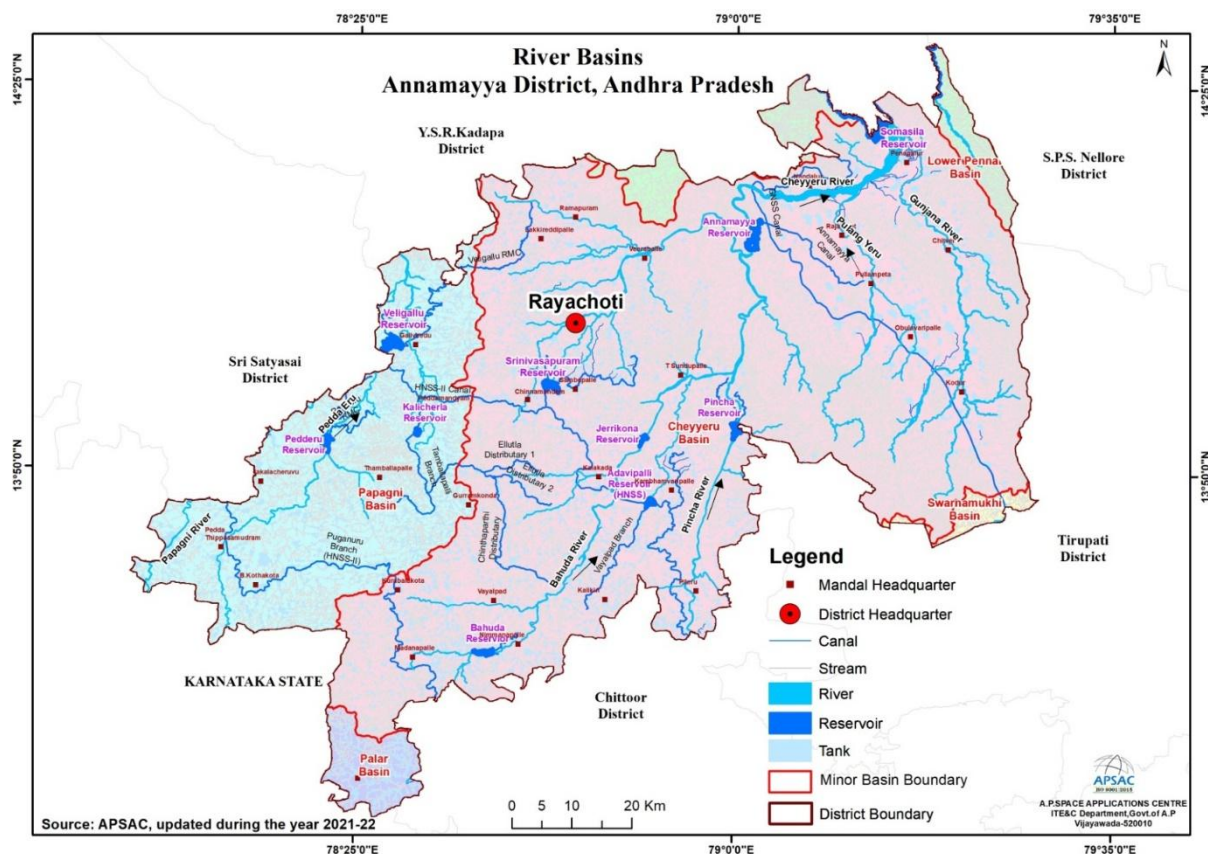


Figure-22:Major and Minor river basin boundaries.

3.1.3 Process of Deposition of Sediments in the Rivers of the District

Sediment transport is a natural process, and many have argued that the point of rivers is to move sediment downstream. However, with land use changes, e.g., deforestation and construction; agricultural practices; and development activities, accelerated erosion rates are ubiquitous. Sediment in the water column reduces transparency and can be deposited downstream and exacerbate flooding. Three principal sources of sediment are the following:

Sediment transport is the movement of organic and inorganic particles by water. In general, the greater the flow, the more sediment that will be conveyed. Water flow can be strong enough to suspend particles in the water column as they move downstream, or simply push them along the bottom of a waterway. Transported sediment may include mineral matter, chemicals and pollutants, and organic material. Another name for sediment transport is sediment load. The total load includes all particles moving as bedload, suspended load, and wash load.

3.1.3.1. Bedload

As the name suggests, this element of sediment movement consists of loose, granular particles at the sediment-water interface (such as a stream bed or tidal flat). Air or water that moves across the bed will begin to move grains if the flow velocity is great enough to overcome the force of gravity and any resistance at grain contacts. This is the **threshold velocity**. (Figure-23)

The bedload contains two main components:

- the **traction load**, or traction carpet, and
- the **saltation loads**.

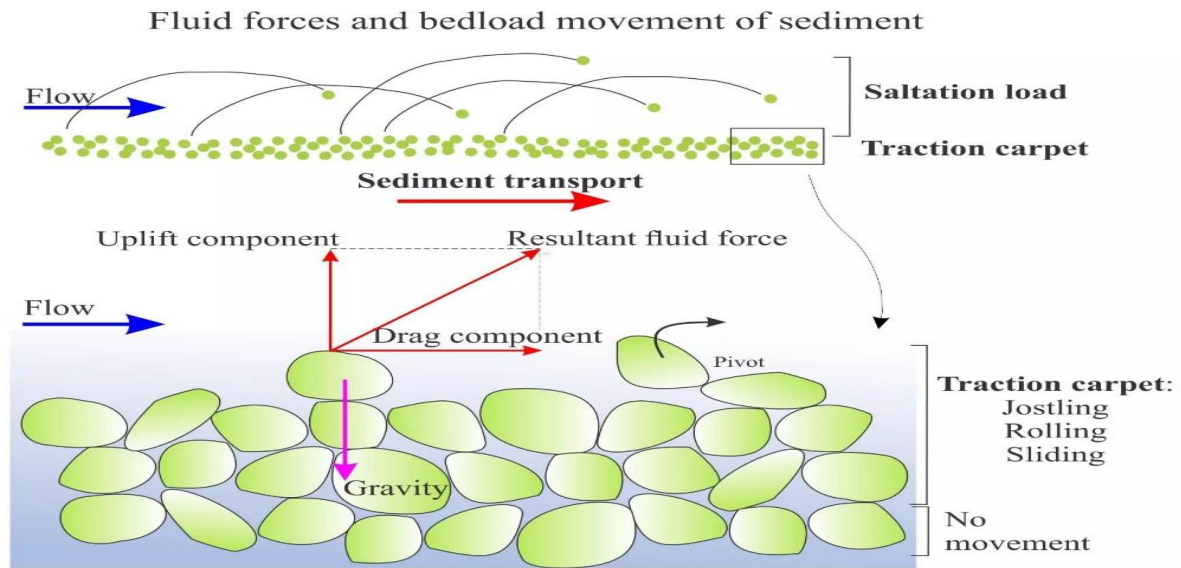


Figure-23: Bedload Movement of Sediment

The various components of force involved in initiation of grain movement are shown above. Here, fluid flowing over a sediment bed produces shear stresses that can be resolved into a component of drag (parallel to the bed) and a lift component normal to the bed. At the threshold velocity when the resultant fluid force on grains is greater than gravity, grains begin to roll, slide and jostle along the bed like a moving carpet – the **traction carpet**.

3.1.3.2. Suspended Load

Most natural flows in rivers, shallow marine settings and air are turbulent. Even at low-flow velocities, the speed and trajectories of flow can vary considerably – witness the eddies and boils in seemingly tranquil streams. Very fine particulate sediment (particularly clays) can be kept in suspension for long periods by turbulence; the stresses generated by turbulent flow balance or overcome the gravitational force acting on the particles.

If turbulence decreases significantly, for example when a river empties into a lake, then most particles will gradually settle to the sediment bed. The rate at which a particle settles out of suspension is called the **settling velocity**, where the force of gravity (downwards) exceeds the combined effects of upward-directed **buoyancy forces** acting on a grain and the drag on a particle caused by **fluid (viscous) resistance**. Thus, the rate of settling depends on the size, shape and density of particles, and the viscosity of the fluid. In general, settling through air is much more rapid than through water.

Both bedload and suspension load are important processes in the generation of sedimentary structures. In particular, bedload transport of loose sand is the critical process for growth of bedforms and their internal cross-stratification (crossbedding). The description of **bedforms** (crossbeds) and the flow conditions (**flow regime**) under which they form have been described in other posts (Figure-24).

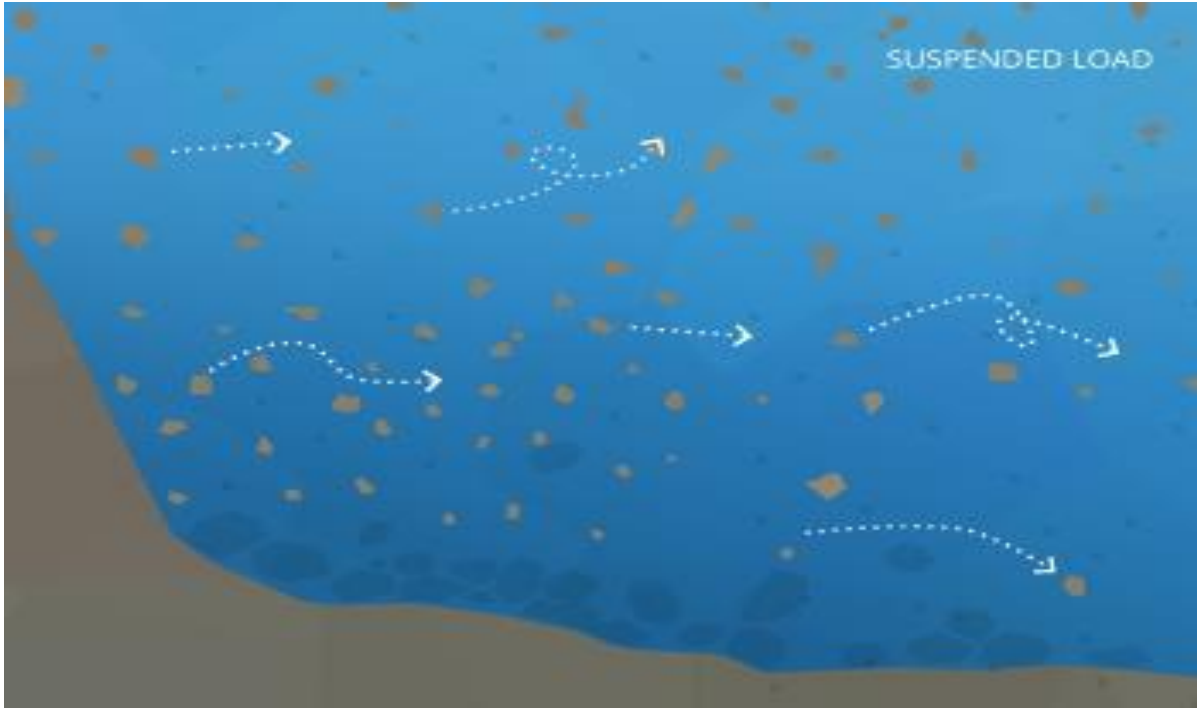


Figure-24: Sediment Load

3.1.3.3. Wash Load

The wash load is the portion of sediment that will remain suspended even when there is no water flow. The wash load is a subset of the suspended load. This load is comprised of the finest suspended sediment (typically less than 0.00195 mm in diameter). The wash load is differentiated from the suspended load because it will not settle to the bottom of a waterway during a low or no flow period. Instead, these particles remain in permanent suspension as they are small enough to bounce off water molecules and stay afloat. However, during flow periods, the wash load and suspended load are indistinguishable. Turbidity in lakes and slow-moving rivers is typically due the wash load 8. When the flow rate increases (increasing the suspended load and overall sediment transport), turbidity also increases. While turbidity cannot be used to estimate sediment transport, it can approximate suspended sediment concentrations at a specific location (Figure-25).

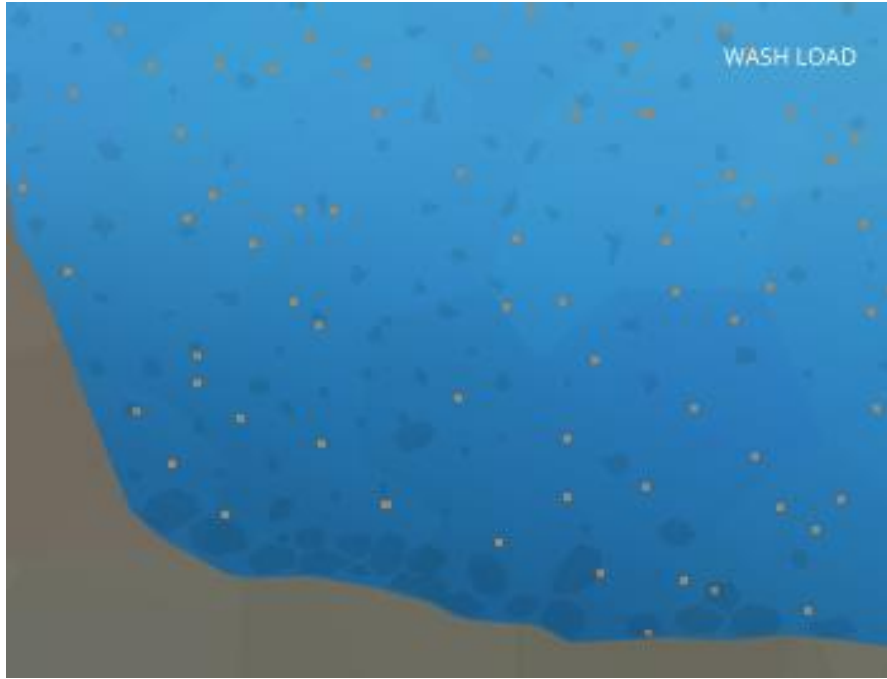


Figure-25: Wash Load

3.1.3.4. Settleable Solids

The suspended particles that fall to the bottom of a water body are called settleable solids. As they are found in riverbeds and streambeds, these settled solids are also known as bedded sediment. The size of settleable solids will vary by water system – in high flow areas, larger, gravel-sized sediment will settle out first. Finer particles, including silt and clay, can be carried all the way out to an estuary or delta (Figure-26).

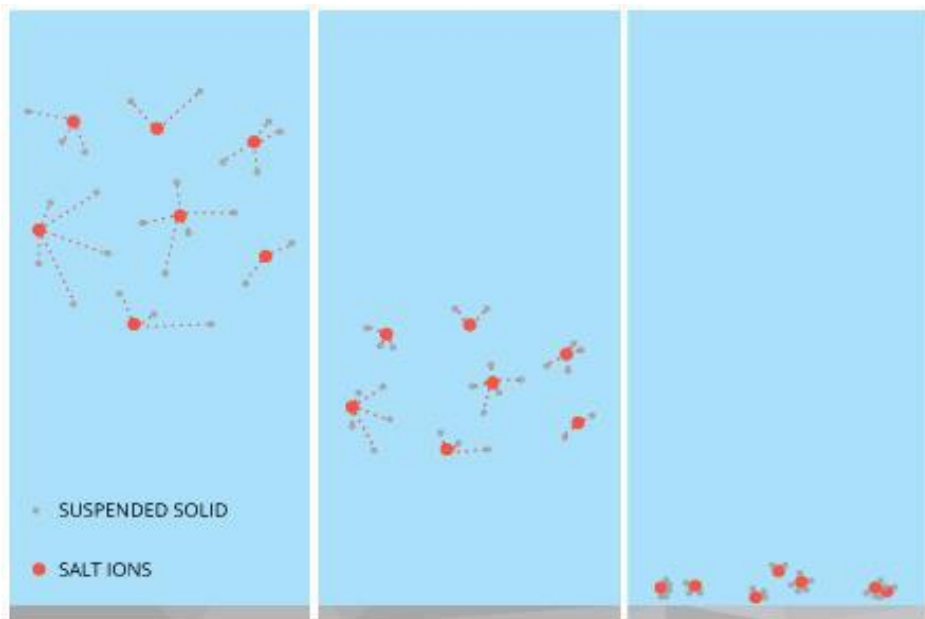


Figure-26: Settleable Solids

3.1.3.5. Sediment Deposition

Sediment is necessary to the development of aquatic ecosystems through nutrient replenishment and the creation of benthic habitat and spawning areas. These benefits occur due to sediment deposition – when suspended particles settle down to the bottom of a body of water. This settling often occurs when water flow slows down or stops and heavy particles can no longer be supported by the bed turbulence. Sediment deposition can be found anywhere in a water system, from high mountain streams, to rivers, lakes, deltas and floodplains. However, it should be noted that while sediment is important for aquatic habitat growth, it can cause environmental issues if the deposition rates are too high, or too low. Sediment transportation and Deposition depends upon various factors like Slope of the Area, Annual Rainfall, Lithology, and flow intensity of River, Geomorphology, Soil, Geology and Land use.

In sediment transport a distinction is generally made between fine and coarse sediment, because the transport mechanisms differ. Coarse sediment (grain size $>63\ \mu\text{m}$) tends to be characterised by particles that remain separate and are chemically inert; fine sediments ($<63\ \mu\text{m}$) on the other hand tend to come together as flocculated populations (flocs) and have the tendency to attract organic material and contaminants to their surface. A great deal has been researched and written about the break up and flocculation of these primary particles under turbulence and subsequent settling (e.g., Uncles et al., 2010). These differences imply important variations in the rate of transport and settling characteristics for the same flow conditions for different sediments. The nature of the physical environment also has an important bearing on this, in that fine sediment tend to be found in sheltered environments (shallow, enclosed estuarine systems), while beaches on open coasts are characterised by coarser materials. This reflects the energy of the water in which the particles become suspended and their subsequent fate.

Rates of transport of material are generally expressed in terms of a flux, as kg/s for example, where this figure is generally obtained by considering the product of the flow rate (in m^3/s) and the concentration of material in suspension (kg/m^3). This does not necessarily imply a requirement for the material to be suspended; it is equally possible to express a bed load using the same units, for example, but it does imply that to obtain an estimate of the sediment flux it is necessary to know both the concentration and the flow rate over a given cross section. Both these quantities can be measured and there are a variety of techniques available to do this, using insitu collection or sampling, in situ optical or

acoustic methods, or remote sensing from aircraft or satellites (Uncles and Mitchell, 2017) (Figure-27)

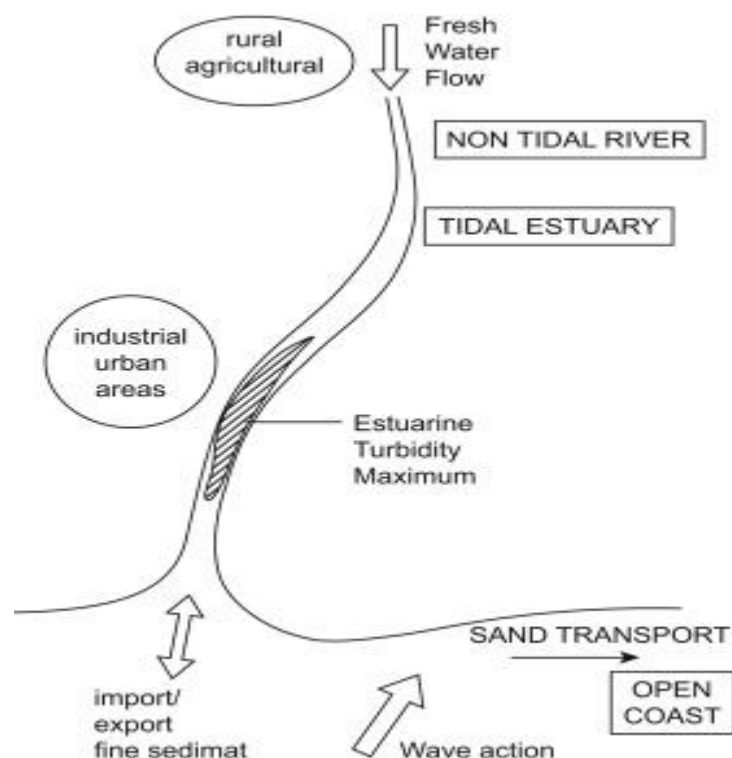


Figure-27: Sediment Deposition Process

Process of Deposition of Sediments in the Rivers of the District Sand is deposited because of the following reasons: (a) Floods: The surface or strip of relatively smooth land adjacent to a river channel constructed (or in the process of being constructed) by the present river in its existing regimen and covered with water when the river overflows its banks at times of high water. It is built of alluvium carried by the river during floods and deposited in the sluggish water beyond the influence of the swiftest current (b) Valley fill: The unconsolidated sediment deposited by any agent so as to fill or partly fill a valley.

3.1.4 Replenishment Study

A replenishment study for riverbed sand is required in order to nullify the adverse impacts arising due to excessive sand extraction. Mining within or near the riverbed has a direct impact on the stream's physical characteristics, such as channel geometry, bed elevation, substratum composition and stability, in-stream roughness of the bed, flow velocity, discharge capacity, sediment transport capacity etc. For sustainable river sand mining, it is necessary that the mine pits formed as a result of sand excavation are refilled with sand by the natural process of replenishment

in a reasonable period so that the area is again available for mining. The rate of gross erosion is dependent upon many physical factors like climatic conditions, the nature of the soil, the slope of the area, topography and land use. The effect of any of these variables may vary greatly from one geographic location to another, and the relative importance of controlling factors often varies within a given land resource area (Dendy, 1976).

There is no denial of the fact that bed load changes from hour to hour, day to day, and year to year; estimating annual bed load rates is a dynamic process involving careful examination. Therefore, proper care has been taken before applying the empirical model to calculate the sediment yield from the watershed.

The estimation of sand replenishment is based on empirical and analytical approaches. There are many sediment transport equations as well as models which are suitable for use in the prediction of the replenishment rate of rivers/watersheds. The sedimentation models include SWAT, HEC-HMS etc. These models are developed based on the fundamental hydrological and sedimentological processes. They may provide detailed temporal and spatial simulation but usually require extensive data input. Hourly/daily input values of meteorological and radiation variables are required for continuous simulations. Some of the empirical equations for estimating sediment transport are as follows.

Annual Replenishment Rate for sand for Major Sand Resource Area is determined using empirical mathematical expression Dendy Bolton Equation and reproduced below:

- Einstein (1950)
- Laursen (1958)
- Bagnold (1966)
- Engelund-Hansen equation (1967)
- Yang equations (1973)
- Dendy- Bolton equation (1976)
- Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)
- Van Rijn (1984)
- Zanke (1987)

To estimate the transport capacity or the sediment load being conveyed by a water stream, one of the many transport equations that are available in the literature is frequently used. Einstein (1950) introduced statistical methods to represent the turbulent behaviour of the flow. Bagnold (1966) introduced an energy concept and related the sediment transport rate to

work done by the fluid. Engelund and Hansen (1967) presented a simple and reliable formula for the total load transport in rivers. The Yang equation makes use of the total bed hydraulic radius, and studies show that it is good for estimating the sediment transport in the channel for the condition of dunes on the bed. MUSLE includes only one type of sediment yield (sheet and rill Erosion). Van Rijn (1984) solved the equations of motions of an individual bed-load particle and computed the saltation characteristics and the particle velocity as a function of the flow conditions and the particle diameter for plane bed conditions. The equations of Zanke and Van Rijn seem to be only moderately satisfactory in estimating the sediment transport in the channel for the condition of dunes on the bed. However, it appears that no single equation could provide reliable estimates of a total load of sediment transport for all of the bed forms that could occur sequentially or randomly in alluvial channels or natural water courses. The comparison of the equations for estimating sediment rate is given below Table 24 –

Table 24: Types of Sediment Transport Equation

Sl.No.	Sediment Transport Equation	Remarks
1	Einstein (1950)	Bed load function was determined for many but not all types of stream channels
2	Laursen (1958)	Laursen equation outperforms other transport equations in the silt range
3	Bagnold (1966)	Bagnold related the sediment transport rate to work done by the fluid
4	Engelund-Hansen equation (1967)	The original Engelund-Hansen relation (OEH) is based on a single characteristic grain size, which limits its applicability in sand-bed rivers with a wide GSD
5	Yang equations (1973)	It makes use of a total bed hydraulic radius
6	Dendy- Bolton equation (1976)	It uses both drainage area and means annual runoff for estimation of sediment yield. It calculates all types of sediment

Sl.No.	Sediment Transport Equation	Remarks
		yield like sheet and rill erosion, gully erosion, channel bed and bank erosion and mass movement
7	Modified Universal Soil Loss Equation (MUSLE) developed by Williams and Berndt (1977)	MUSLE includes only one type of sediment yield (sheet and rill Erosion)
8	Van Rijn (1984)	Calculated equations of motions of an individual bed-load particle for plane bed conditions
9	Zanke (1987)	Zanke was found to be moderately satisfactory for the condition of the dunes on the bed.

In this study, the rate of gross silt production in the watershed and the ability of the stream system to transport the eroded material in a river have been carried out by the Dendy-Bolton equation. Dendy-Bolton formula is often used to calculate the sedimentation yield as it uses both drainage area and mean annual runoff as key parameters to give a yield value. Also, Dendy-Bolton equation calculates all types of sediment yield like sheet and rill erosion, gully erosion, channel bed and bank erosion and mass movement.

Annamayya Project (Cheyyeru) is a completed medium irrigation project constructed across Cheyyeru, a tributary to Penna River located near Badanagadda (V), Rajampet Mandal, and Kadapa District.

Annual Replenishment Rate for sand for Major Sand Resource Area is determined using empirical mathematical expression of Dendy Bolton Equation and reproduced below:

For Average Annual Run-off less than 2"

$$S = 1280 \times Q^{0.46} [1.43 - 0.26 \log(A)] \text{----- FORMULA (A)}$$

For Average Annual Run-off more than 2"

$$S = 1965 \times (e^{-0.055 \times Q}) [1.43 - 0.26 \log(A)] \text{----- FORMULA (B)}$$

Q = Mean Annual Run-off in mm

A = Net drainage Area in Sq. km

S = Sediment yield (tons/Sq. km/yr)

The sedimentation yield for Cheyyeru River in Annamayya District is arrived based on the above Dendy Bolton Equation or Formula (A). The Sedimentation yield for Cheyyeru River in Annamayya District is shown in Table-25.

Table 25 Sedimentation yield for Cheyyeru River in Annamayya District

Name of the River	Area Drained (sq. km)	Mean Annual Run-off (in mm)	Rate of Annual Deposition in the River (tons / sq. km /year)	Annual Deposition (ton)
Cheyyeru	6616.07	0.06	15.11	99,947*

Data Source: District Mines and Geology Officer, Annamayya District

***Note:** The sedimentation yield was calculated manually by APSAC and the value is **1,10,019 Tones/ year**. The details are provided as an Annexure at page number 153.

In this report, the sediment yield was calculated using the standard records of Department of Water Resources. To ensure systematic and scientific studies, Department of Mines & Geology is in the process of selection of NABET Accredited agency for conducting detailed & regular replenishment studies for potential sand bearing areas.

3.1.5 Details of Sand Mining Leases:

The Rivers of Cheyyeru, Mandavya, Bahuda and Pinchaare the main sources of sand in the district through following mandals

Name of the river	List of Mandals
Cheyyeru River	T.Sundupalli
	Rajampeta
	Nandaluru
	Penagalur
Mandavya River	Veeraballi

	Rayachoty
	Chinnamandem
Bahuda River	K.V.Palli
	Sambepalli
Pincha River	T. Sundupalli

Proposed potential Sand Mining Leases in Annamayya district shown in Table-26.

Table 26 The detail of Potential Sand Mining Leases

Reach Name	Quantity (in MTs)	Remarks	Geo-Coordinates
Tanguturu	74250	Proposed	
Rollamadugu	60000	Proposed	
Narayana Nellore	52500	Proposed	
Komantharajapuram	52500	Proposed	
Matli	37650	Existing (Semi-mechanized mining method)	14° 06'26.49"N 78° 49'38.05"E 14° 06'23.45"N 78° 49'40.86"E 14° 06'18.84"N 78° 49'36.28"E 14° 06'29.49"N 78° 49'33.43"E
Somavaram	31500	Existing (Semi-mechanized mining method)	14° 09' 22.3020"N 78° 49' 34.9213" E 14° 09' 28.6919"N 78° 49' 42.4813" E 14° 09' 26.9713" N 78° 49' 44.0075" E 14° 09' 20.5812"N 78° 49' 36.4511" E
Veeraballi	45000	Existing (Semi-mechanized mining method)	14° 09' 51.2065"N 78° 50' 56.6339" E 14° 09' 51.0840" N 78° 51' 06.6347" E 14° 09' 47.8297" N 78° 51' 06.5916" E 14° 09' 47.9555" N 78° 50' 56.5907" E
Ramapuram	16147.5	Existing (Semi-mechanized mining method)	A- N 13-40-58.01" E 78-06-0.3" B- N 13- 41-0.1" E 78-06-3.1" C- N 13- 41-2.1" E 78-06-3.2" D- N 13-41-4.6" E 78-06-01.7" E- N 13- 41-5.3" E 78-05-59.8" F- N 13-41-5.7" E 78-05-59.9" G- N 13-41-6.1" E 78-06-0.9" H- N 13-41-5.4" E 78-06-3.4" I- N 13-41-2.9" E 78-06-4.3" J- N 13-40-59.8" E 78-06-3.7" K- N 13-40-55.9" E 78-06-0.7"

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh

Probable Sand Mining reaches in Annamayya district shown in Table-27. Name of the sand bearing index are given from North to South direction. The Probable Sand bearing areas were identified through field survey with

the help of hand held GPS (Global Positional System) and the help of existing literature.

Table 27: Probable Sand bearing in the Annamayya District

S.No	Name of the River	Sand Bearing Area	Central Coordinates		Area in Ha.
			Latitude	Longitude	
1	Cheyzeru River	A	13° 40' 19.393" N	78° 6' 2.219" E	1.07
2	Cheyzeru River	B	13° 40' 42.255" N	78° 5' 51.433" E	0.66
3	Cheyzeru River	C	14° 7' 33.904" N	78° 49' 25.931" E	5.52
4	Cheyzeru River	D	14° 7' 51.874" N	78° 49' 19.896" E	5.15
5	Cheyzeru River	E	14° 9' 56.715" N	78° 51' 43.012" E	30.37
6	Cheyzeru River	F	14° 14' 55.834" N	79° 4' 47.930" E	51.09
7	Cheyzeru River	G	14° 18' 56.221" N	79° 14' 23.018" E	102.03

3.1.6 Details of De-Siltation Location: (Lakes/Ponds/Dams etc.)

The details of potential of de-siltation locations in Annamayya District are shown in Table-28.

Table 28 List of Potential De-Siltation Location: (Lakes/Ponds/Dams etc.) (Existing and proposed)

De-siltation Points	Quantity (in MTs)	Remarks
Pincha Reservoir Upstream	90000	Existing

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh

3.1.7 Details of Patta Lands in the District:

The details of Patta Lands in the Annamayya district are shown in Table-29.

Table 29 Details of Patta Lands.

Owner	Sy. No.	Area (Ha)	District	Tehsil	Village	Total Reserve (MT)	Total Mineral to be mined (MT)	Existing/ Proposed
Nil								

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh

3.1.8 Details of M-Sand Plants in the District:

The details of Manufacturing Sand in Annamayya district is shown in

Table-30.

Table 30 Shown Details of Details of M-Sand Plants

Plant Name	Owner	District	Tehsil	Village	Geo-location	Quantity Tonnes/Annum
NIL There are no existing M - Sand units under this Annamayya office jurisdiction						

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh

3.1.9 Details of Cluster of Sand Mining Leases

The area of Cluster of Mining Leases in Annamayya jurisdiction is shown in Table-31.

Table 31 Details Cluster of Mining Leases in Annamayya District

Sl.No	Name of the Cluster	Location (Latitude and Longitude)	Extent (in Ha)	Total No. of Mining Leases in the Cluster	No.of Leases working	Extent of the working leases (in Ha)
NIL						

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh

3.1.10 Details of Contiguous Clusters

The area of Contiguous Cluster of Sand Reaches in Annamayya jurisdiction is shown in Table-32.

Table 32 Details of Contiguous Cluster of Sand Reaches in Annamayya District

Sl.No	Name of the Cluster	Location (Latitude and Longitude)	Extent (in Ha)	Total No. of Mining Leases in the Cluster	No.of Leases working	Extent of the working leases (in Ha)
NIL						

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh

3.1.11 Sand Reaches Details in Annamayya District

The Department of Mines and Geology has already identified sand reach points in Annamayya district. Furthermore, many sand reach points have been identified. The sand reach points are shown in Figure-28 and Figure-29.

The probable sand-bearing areas were identified through field surveys with the help of handheld GPS (Global Positioning System) devices and existing literature. The probable sand-bearing areas in Annamayya District are shown in Figure-30.

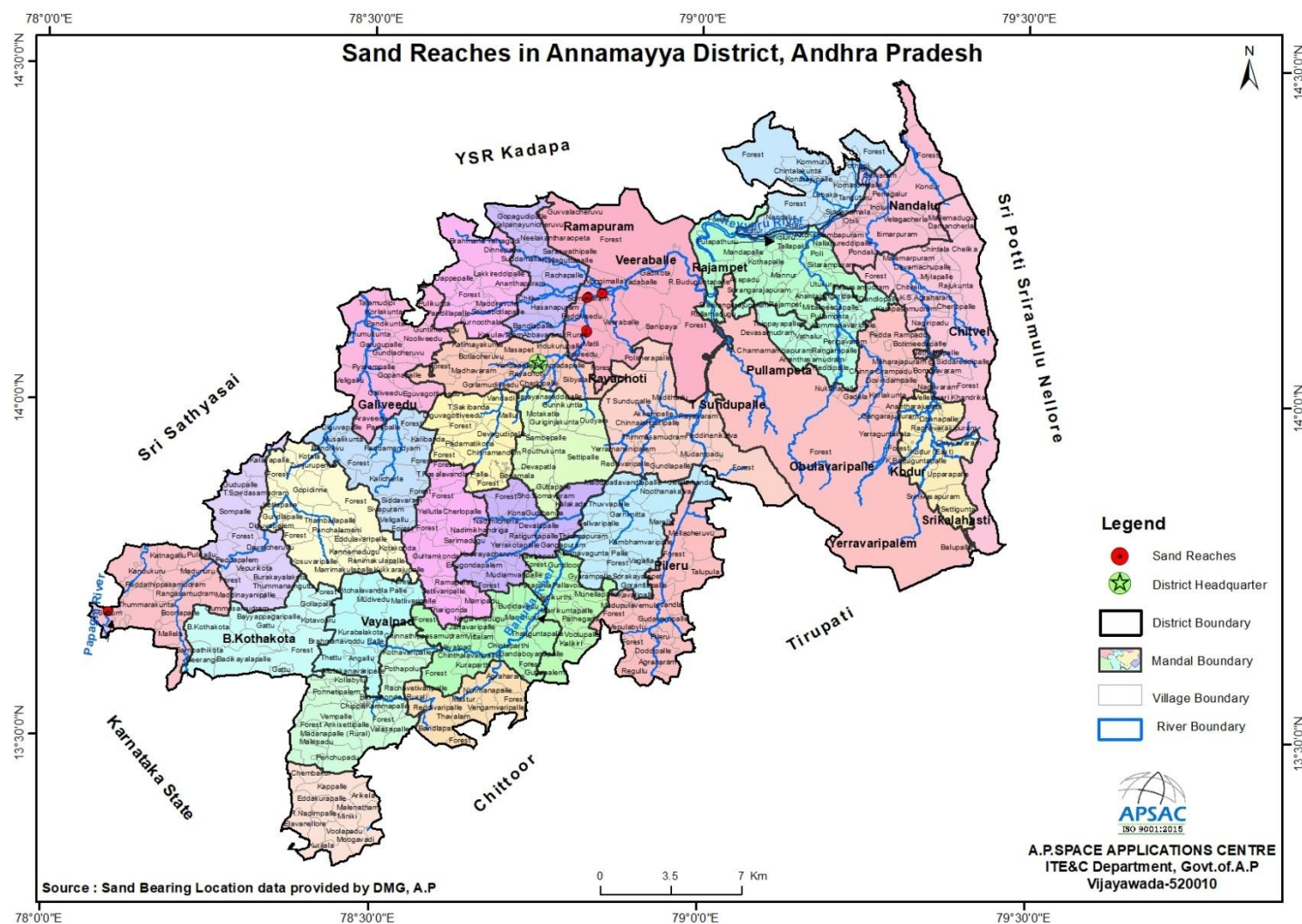


Figure-28: Map of Sand reaches in Annamayya District

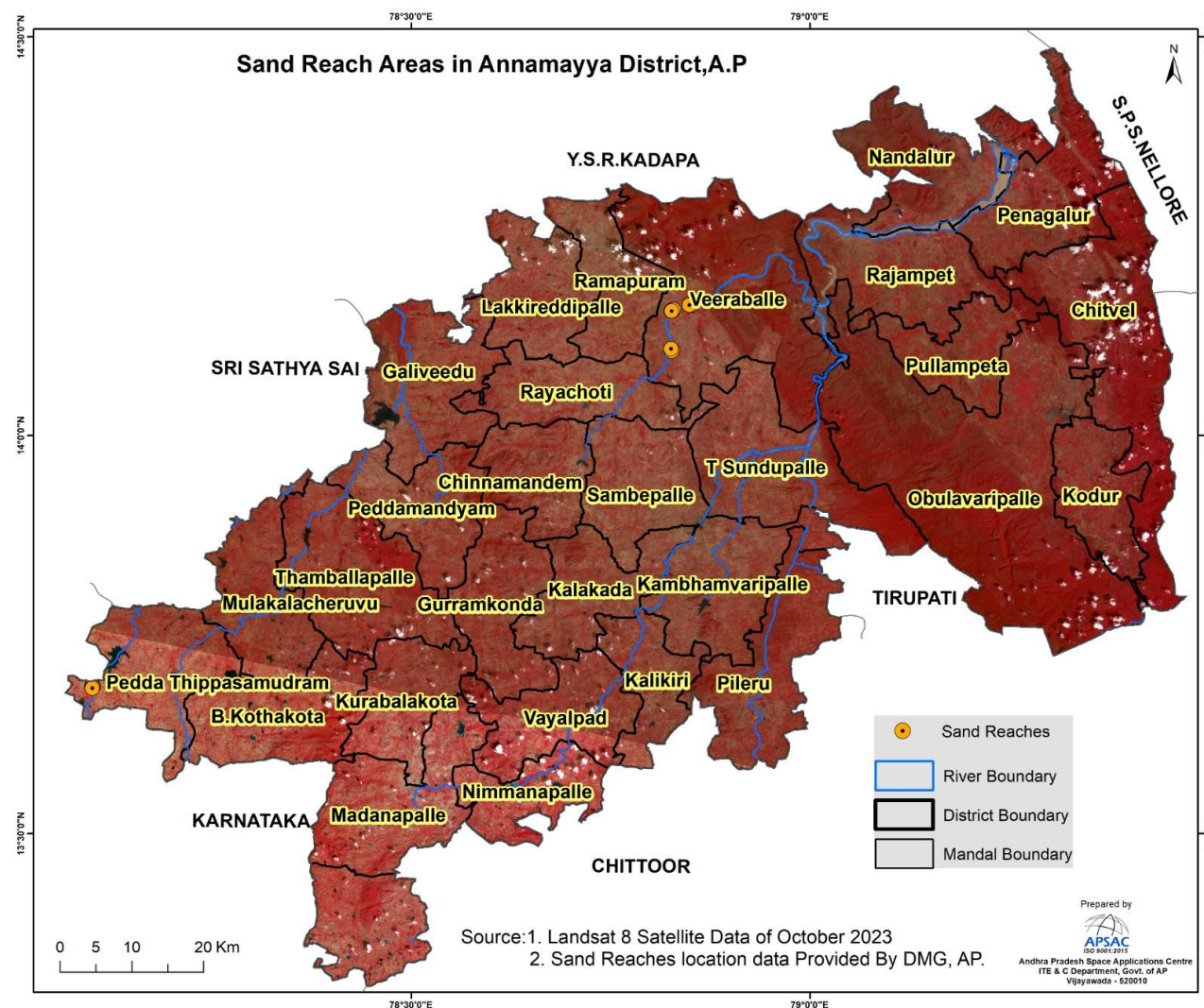


Figure-29: Satellite Map of Sand reaches in Annamayya District

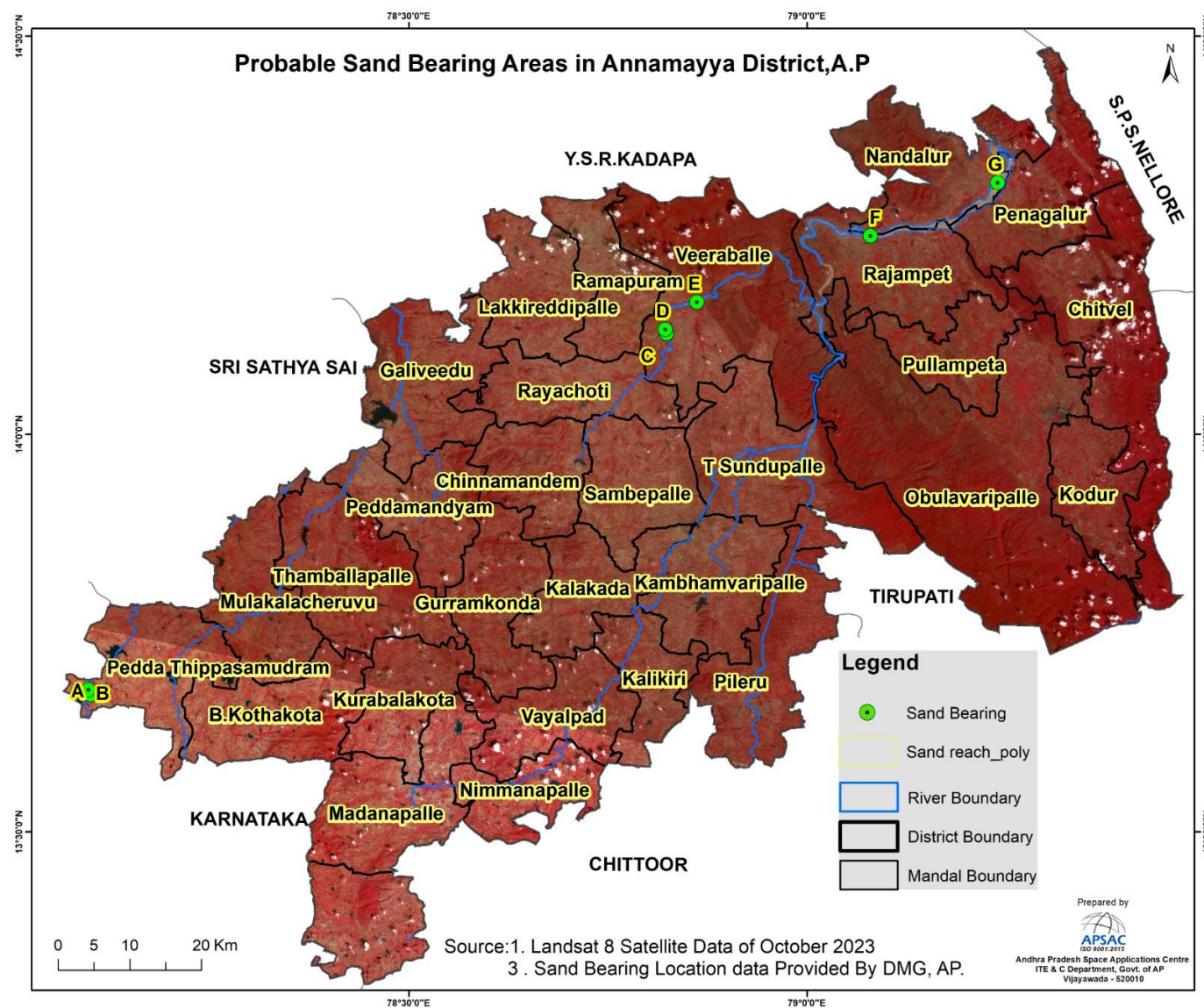


Figure-30: Probable Sand bearing areas in the Annamayya District

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ANNEXURE

As the average annual run-off is less than 2" in the Annamayya District, the sedimentation yield in Cheyyeru River in Annamayya District was manually arrived by the APSAC based on the Dendy Bolton Equation or Formula and is given below.

$$S = 1280 \times Q^{0.46} [1.43 - 0.26 \log (A)]$$

Q = Mean Annual Run-off in mm

A = Net drainage Area in Sq. km

S = Sediment yield (tons/Sq. km/yr)

Sedimentation yield for the Cheyyeru River in Annamayya District

Name of the River	Area Drained (sq. km)	Mean Annual Run-off (in mm)
Cheyyeru	6616.07	0.06

Data Source: District Mines and Geology Officer, Annamayya District, Andhra Pradesh and APSAC, Vijayawada

The given drained area value converted from Sq.Km to Sq.mile and the mean annual run-off converted from mm to inches for the calculations.

$$S = 1280 \times Q^{0.46} [1.43 - 0.26 \log (A)] \text{ Tons/sq.mile/year}$$

Drainage Area (A) = 6616.07 sq. Km (1 Sq.km = 0.386 Sq.mile)

$$= 6616.07 \times 0.386$$

$$A = 2553.803 \text{ Sq.mile} \text{ -----(1)}$$

Mean Annual Run-off (Q) = 0.06 mm (1 mm = 0.0393 inches)

$$= 0.06 \times 0.0393$$

$$Q = 0.002358 \text{ inches} \text{ -----(2)}$$

$$S = 1280 \times Q^{0.46} [1.43 - 0.26 \log (A)] \text{ Tons/sq.mile/year}$$

$$S = 1280 \times (0.002358)^{0.46} [1.43 - 0.26 \log (2553.803)]$$

$$\begin{aligned} \text{Log } 25 \text{ of } 5 &= 0.4065 \\ 0.3 &= 7 \\ \text{As per base, the value} &= 3.0000 \\ &\text{-----(+)} \\ \text{Log } 2553.803 &= 3.4072 \text{ -----(3)} \end{aligned}$$

$$= 1280 \times (0.002358)^{0.46} [1.43 - 0.26 \times 3.4072]$$

$$= 1280 \times (0.002358)^{0.46} [1.43 - 0.895869]$$

$$= 1280 \times (0.002358)^{0.46} [0.544131]$$

$$= 1280 \times 0.061854 \times 0.629876$$

$$= 43.0808$$

$$S = 43.0808 \text{ Tons/sq.mile/year} \text{ -----(4)}$$

For total district Sedimentation Yield =
Per Sq.mile Sedimentation Yield (4) x Total Drainage Area (1)

$$43.0808 \times 2553.803 = 1,10,019.9$$

As the Sedimentation yield calculated manually,

The sedimentation in the total River in the Annamayya District = **1,10,019.9 Tons/ year**

END