EXECUTIVE SUMMARY

I. INTRODUCTION

i. Background

Water is going to be valued than a precious metal in near future. Farming community will be in a disastrous condition as water depletion is a common phenomena all over the world. If we are not intend to inculcate ourselves to follow new, innovative techniques, to stop drastic drawdown and drying down of aquifers, our prosperity will suffer in near future. That is why our Hon'ble President of India addressed to the joint session of Parliament of 16thLokasaba with a note "Each Drop of water is precious" and the Government of India is giving utmost priority to secure, to store, to save the existence of 'water' as an asset for the deliverance of livelihood. Thus a new project: Pradhan Mantri Krishi Sinchayee Yojana" with the motto of "HarKhetKoPaani" was launched with a slogan "Per drop More Crop".

ii. Vision of District Irrigation Plan

- Achieving the goal of bringing irrigation water to every farm, there is need to converge all ongoing efforts, put all efforts under one umbrella and to bridge the gaps through location specific innovative interventions.

iii. Objectives of District Irrigation Plan

1) Achieving the convergence of investments in irrigation at the field level
2) Enhance the physical access of water on the farm and expand cultivable area under assured irrigation (Har Khet Ko Pani)
3) Integration of water source, distribution and its efficient use, to make best use of water through appropriate technologies and practices.
4) Improve on-farm water use efficiency to reduce wastage and increase availability both in duration and extent.
5) Enhance the adoption of precision-irrigation andother water saving technologies (More crops per drop).
6) Enhance the recharge of aquifers and introduce sustainable water conservation practices
7) Ensure the integrated development of rainfed areas using the watershed approach towards soil and water conservation, regeneration of ground water, arresting runoff, providing livelihood options and otherNRM activities.

8) Promote extension activities relating to water harvesting, water management and crop alignment for farmers and grass root level field functionaries.
9) Explore the feasibility of reusing treated municipal waste water for peri-urban agriculture.
10) Attract greater private investments in irrigation.
11) Conservation, Development and Maintainance of natural resources by implementing watershed activities.

iv. Strategy /Approach,

In Chamarajanagar district, District Irrigation Plan (DIP) has been prepared, under PMKSY by compiling all the inputs collected from various departments for Thirteenth 5-Year plan.

- Average annual rainfall for ten years is taken as a base to calculate all necessary needs.
- From this, quantum of water that can be stored as 'Surface water', and 'Ground water is calculated.
- For surface water manipulations, medium and major Reservoir Projects and system Tanks, MI Tanks under the control of minor irrigation and Panchayatraj Engineering Department water harvesting structures constructed under many schemes through Agricultural and watershed department have been collected and maximum water that can be stored in the structures have to be calculated.
- Net quantity of water that will be available as surface water is calculated after considering number of fillings in the system tank that are taken in to account by interpreting the rainfall data after deducting loses due to evaporation, seepage etc.,
- The ground water storage data are obtained from the Central Ground Water Board, for arriving the "Total Quantity of Water Available" for the purpose of Agriculture, Domestic, Livestock requirement and Industry in Billion Cubic Meter (BCM)

Following works are to be taken to achive the objectives of PMKSY

- Quantum of water is arrived from rainfall details for arriving the plan of creating new water source so as to augur the additional need of the mankind.
- As the digital world, irrigation net working is as easily as possible to reorient the irrigation sources.
- Promoting scientific strategies in soil & water conservation.
- Promoting Micro Irrigation systems for efficient use of available water at field level.
- Encouraging community irrigation through registered water user association to instill confidence among farming communities to take up maintenance works with participatory irrigation management mode.
- Exposure visits to meet successful farmers to adopt frugal ways and means to implement in their field in confident manner.
- Workshop on newly developed machineries and other new strategies other than traditional culture could have been possible to instill confidence among farmers.

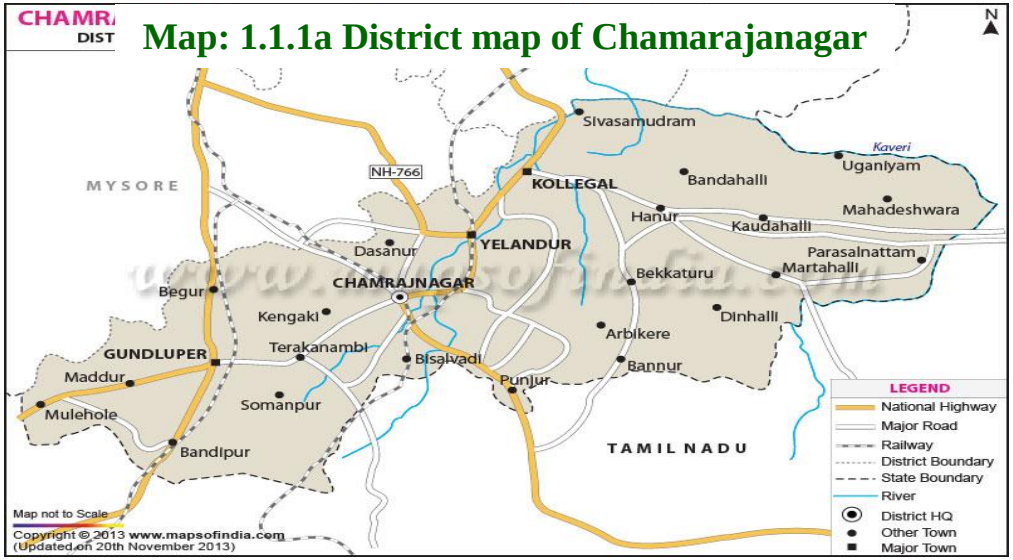
CHAPTER – I

GENERAL INFORMATION OF CHAMARAJANAGAR DISTRICT

1.1 DISTRICT PROFILE

1.1.1 GENERAL INTRODUCTION

Map: 1.1.1a District map of Chamarajanagar



Chamarajanagar district is one of the 7 new districts formed during 1997 which is located in the extreme south end of Karnataka state. Being in the southern border, it links the State with Tamil Nadu and Kerala States. The district consists of 4 taluks, 16 hoblies, 428 inhabited villages and 81 uninhabited villages. Total Number of villages are 509. The four taluks of the district are Chamarajanagar, Gundlupet, Kollegala and Yelandur. The Chamarajanagar town is the district head quarter. The district is famous for different types of forest products. The district falls in Cauvery basin but, there are no perennial rivers draining the district. However, the river Cauvery flows along the boundary of Kollegala taluk. The district is mainly drained by Suvarnavathi and Chikkahole, which are the tributaries of Cauvery and are ephemeral in nature. There are no mineral based industries in the district. The district is industrially backward and is supported by agrarian economy. Quarrying of hard rocks is a major activity which is used for civil construction work, production of decorative polished slabs and as road material. The existence of rich forest helps the economy in various ways as it provides raw materials for industries like paper, rayon, saw mills, safety matches and sandalwood. Bandipura National Park having a large population of spotteddeers and elephants is located in the district

The total population in the district is around 10, 20,791 (as per 2011 census), out of which 512231 are male and 508560 are female. Thus, the sex ratio in the district is 993 females for every 1000 males. The average literacy rate is 61.43% (2011 census). The district has a rich forest wealth. About 48.36% of the district area is under forest cover.

The rural population constitutes about 82.86% and is mainly dependent on agriculture. The agriculture in the district heavily depends on monsoon. Irrigation facility is available only in 34% of the Net sown area. Among the different sources of irrigation like canals, tanks, wells and bore wells etc, irrigation by canals contributes 19%, tanks 13 % and wells and bore wells contribute 68%. This indicates that in irrigated agriculture the groundwater contribution is considerably high (68%) and the remaining is met by surface water. Krishnarajasagar Irrigation project is serving mainly in Yalandur and parts of Kollegal taluks. In other areas surface irrigation is provided through minor irrigation tanks.

1.1.2. LOCATION

The geographical area of Chamarajanagar district is 569901 hectares The district is located in the southern extreme of Karnataka State and lies between the North latitude11º40'58" and 12º06'32" and East longitude 76°24'14'' and 77°46'55''and falls in the southern dry agro-climatic zone. Topography is undulating and mountainous with north – south trending hill ranges of Western Ghats. The district is elongated in east – west direction. Mandya, Bangalore and parts of district are in the north, Wynad district of Kerala and parts of Mysore district are in the west, Salem and Nilgiri districts of Tamil Nadu are in the south and Dharmapuri district of Tamilnadu is in the east.

Table.1.1.2.1 GEOGRAPHICAL LOCATION

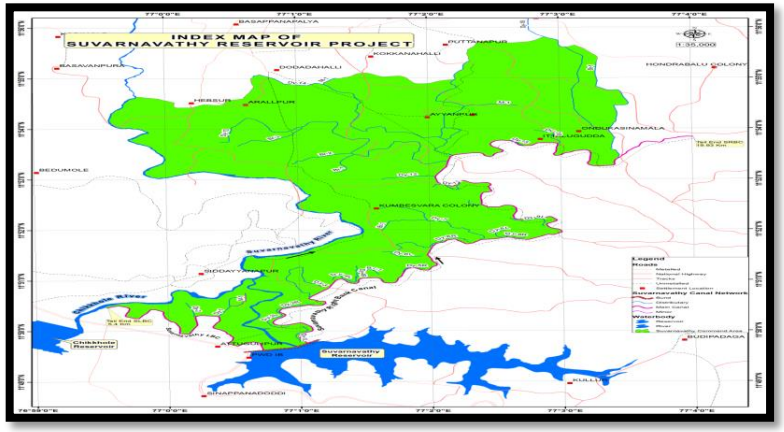
Sl.no	Name of the district	District code	Latitude	Longitude
1	Chamarajanagar	27	11°40'58'' and 12°06'32''	76°24'14" and 77°46'55"

1.1.3. COMMUNICATION

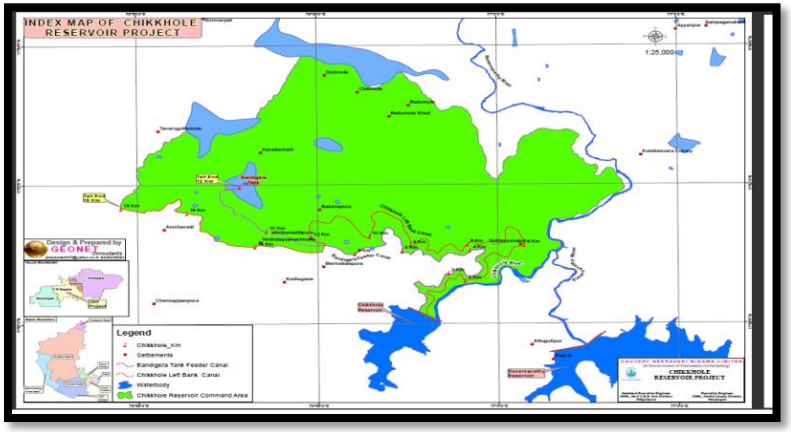
The district is well connected by highways and other main roads. The Bangalore – Nilgiris,Mysore-Mananthavadi National highways pass through the district in Gundlupet taluk. A fairly good network of roads exists connecting taluk headquarters with hoblis to various taluk headquarters. Total length 150 km. of National Highway, 336 km of State Highway and, 867 km of other major district roads, 2612 km length of village roads and other roads serve as road communication in the district. The Chamarajanagar is connected by Mysore-Chamarajanagar broad gauge railway line with a length of 68 kms.

1.1.4. DRAINAGE

The district is in Cauvery river basin. There are no perennial rivers in the district, however, Cauvery, the perennial river flows along the border of Kollegal taluk of the district. The district is mainly drained by the tributaries of Cauvery like Suvarnavathi and Chikkahole and their tributary systems. Suvarnavathi rises near Gajjalahalli, southeastern portion of Chamarajanagar and flows in the depression along the center of the taluk in a north-south direction and flowing through Yalandur taluk it joins the river Cauvery at Hampapura in Kollegal taluk. It has a catchment area of 1787 sq.km with total length of 88 kms in the district. The stream is ephemeral in nature and effluent upto Umbale village and influent to the rest of its course. A dam has been constructed across Suvarnavathi at Atgulipura in Chamarajanagar taluk. The Chikkahole is a tributary of Suvarnavathi, which rises at Hasanur ghat range to the south of Chamarajanagar and flows in northerly direction. A dam is constructed across this tributary about 12 kms away from Chamarajanagar. Besides these, Gundal, Thattaihalla, Uduthorehalla and Palar are the tributaries of Cauvery River which drain parts of Kollegala taluk. The area is characterized by sub-dendritic to subparallel drainage pattern. The density decreases towards SuvarnavathiRiver.



Map: 1.1.4.1 index Map of chikkahole reservoir



Map: 1.1.4.2 index Map of suvarnavathi reservoir

1.1.5. CROPS AND IRRIGATION PRACTICES

The district falls in southern dry agro-climatic zone. Various agricultural and horticultural crops are grown in the district. Among the agricultural crops cereals (Paddy, Ragi, Jowar and Maize), pulses (Greengram, Blacklgram, Cowpea, Horsegram and Bengalgram), oil seeds (Groundnut, Sunflower), commercial crops (Sugarcane and Cotton) and vegetables are important. Banana and Coconut are important major Horticultural crops. Sericulture is a more predominant traditional activity in the district. As per the Agricultural census 2005-06 data, the net sown area is191838 Ha which constitutes 34% of the geographical area of the district. In this, the marginal (< 1 hect) and the small (1-2 hect) land holdings comprise 59% and the semi-medium (2-4 hect) and the medium (4-10 hect) land holdings comprise 38%. Irrigation facility is available in 35% of the Net sown area which constitutes 12% of the district area. Among the different sources of irrigation like canals, tanks, wells and bore wells etc, irrigation by canals covers 19%, tanks 13% and wells and bore wells contribute 68%. Thus, in irrigated agriculture, thegroundwater contribution is considerably high (68%) compared to the surface water surface water (32%). As per the census records (Fourth census of MI schemes 2006-07). The district has 22307 minor irrigation structures, of which 3158 are dugwells, 22849 tube wells, 166 surface water flow schemes and 6 lift irrigation schemes. (Source Central ground water Board report 2012)

Pic: 1.1.5. Agriculture Crops

1.1.6. ADMINISTRATIVE SETUP

Chamarajanagara district comprises 4 taluks namely Chamarajanagar, Gundlupet, Kollegal and Yalandur. Among the four taluks, Kollegal taluk is the largest having an area of 2789 sq km, which is 54.61% of the total area of the district. Yalandur taluk is the smallest with an area of 266.34 sq km Chamarajanagar town is the district headquarters and the district has one revenue sub-division comprising 16 hoblies, 424 inhabited villages and 85 uninhabited villages. The district is having one revenue subdivision and the district headquarters at Chamarajanagar

Deputy Commissioner is head of the district administration. The collectorate consists of various branches headed by Tahasildars, Shirshtedars or Managers who are responsible for supervision, guidance and overall management of work in their branch. Every branch consists of First Division Assistants and Second Division Assistants among whom all work of the branch is divided. The Deputy Commissioner Court deals with cases pertaining to Revenue Appeals, Revenue Miscellaneous (KLR Act, 1964), Prohibition of transfer of Certain Lands cases(PTCL Act,1978) and inam cases(Inam Abolition Act). One SDA and Manager of Judicial Branch assist the D.C by doing BackOffice work.

1.1.7. HISTORICAL AND OTHER IMPORTANCE

Chamarajanagar district is rich with many religious sites like MM Hills, BR hills, Kanakagiri hills, Himavad Gopalaswamay hills and Bandipura Reserve forest.

1.1.7.1 MALE MAHADESHWARA HILLS

The temple in the MM Hills (Malemahadeshwara Betta) is probably the most famous one. The yearly car festival (jatre) at the MM Hills brings many devotees. It is situated within the MM Hills Reserve Forest, not very far from where the river Cauvery flows into Tamil Nadu. The district has its share of natural beauty.

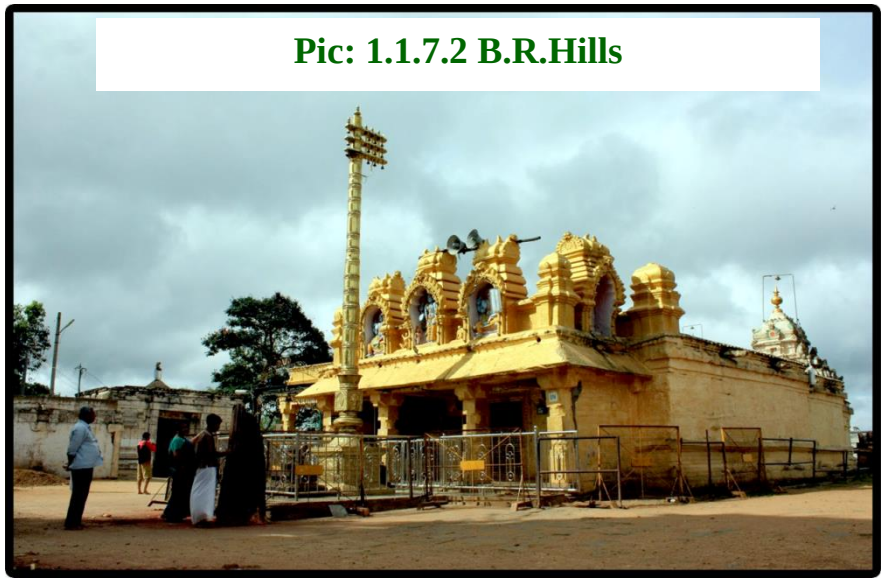
Pic: 1.1.7.1 M.M.Hills

1.1.7.2 B.R.HILLS

BiligiriRanganaBetta (BR Hills) refers to a cliff in the BR Hills range which is a North-South range in the Yelandur Taluk. It is famous for the Ranganathaswamy temple.It is a dense hills range found in the south eastern part of Karnataka and which a border between Karnataka and Tamil Nadu. The area is called Biligiri Ranga Swamy Temple Wildlife Sanctuary or simply BRT Wildlife Sanctuary. Being at the confluence of the Western Ghats and the Eastern Ghats, the sanctuary is home to eco-systems that are unique to both the mountain ranges. Biligiri Rangana range of hills is picturesquely situated between the Cauvery & Kapila Rivers. The hills are in the Yelandur taluk of Chamarajanagar district and considered as bio-geographic bridge between the Western and the Eastern ghats.

The sanctuary derives its name Biligiri either from the white rock face or the white mist and the silver clouds that cover these lofty hills for a greater part of the year. **BR Hills Wildlife Sanctuary**, Situated at a height of 5,091 feet above sea level, this hill stretches from north to south for about 16 Kms. The lower hills are covered with rich deciduous forests that are home to a large number of Asian Elephants and tigers in southern India.

The Biligiri Rangana Hills have been a good place for viewing wild animals and at the same time encountering numerous smaller life forms. The forests have been famous for the Gaur, a large Asian bovid. There are severalspecies of mammals like sambhar, chital, the shy barking deer the rare four-horned antelope and 250 species of birds like the Paradise Flycatcher, Racquet Trailed Drongo and the Crested Hawk Eagle, to name a few.The hills are famous for the temple of Lord Ranganatha or Lord Venkatesha which is situated on the highest peak of the hill range, on the 'white cliff' which gives the hill its name. The local form of the deity is called Biligiri Ranga and is depicted in a unique standing position. There are idols of Ramanuja and Alwars installed in the temple.



Pic: 1.1.7.2 B.R.Hills

The Annual Car festival of the deity held during "Vaishakha "in the month of April, is famous in the region and attracts several pilgrims from other places too. The local

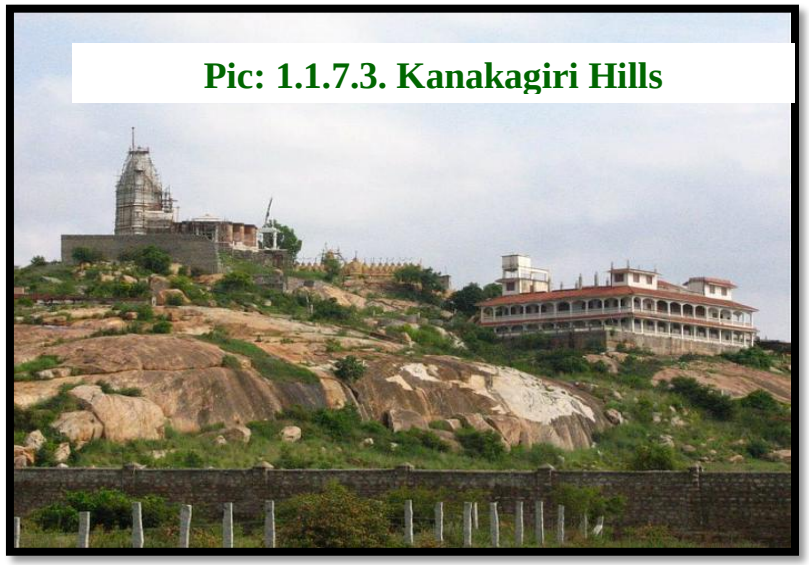
tribes present a large pair of slippers measuring 1 foot and 9 inches, made up of skin, to the Ranganathaswamy once in two years.

1.1.7.3 KANAKAGIRI HILLS

Kanakagiri in Chamarajanagara Taluk is a famous Jain pilgrimage centre. Kanakagiri, about 53 kms away from Mysore.It is described as HemangaDesha in ancient works and is said that Bhagwan Sri Mahavira visited this place during his visit to South India.Sri Kshetra Kanakagiri was constructed by the kings of the Ganga dynasty on the top of the hill in the 5-6th century. The famous Ganga general, Chavundaraya and the Hoysalas, Vijayanagara and Mysore kings have been regular visitors and have donated many villages and land to the temple. The Hoysala king worshipped Bhagawan Parshwanatha before going to war. After winning the war he called the deity Sri Vijaya Parshwanatha Swamy.

Sri Kshetra Kanakagiri, surrounded by a fort, is the only Siddakshetra in South India. It is regarded as one of the holy Jain centers with stone edicts and basadis (Jain shrines), going back to 11th century. It has the Nishadi Caves, the Samadhi Mantapas and inscriptions and footprints from ancient times. Located near Maleyur in Chamarajanagar District in Karnataka, the area is home to dense forests with sandalwood trees.

Sri Kshetra Kanakagiri is a popular pilgrimage centre for people troubled by planetary effects. Even Queen Deveeramamanni from Mysore visited the temple to find a solution to her problems. As thanksgiving, she presented a specially made snake hood, with the figures of Dharanendra and Padmavathi, to the temple.



Pic: 1.1.7.3. Kanakagiri Hills

The Samavasarana is said to have been held here. Samavasarana, meaning ‘Refuge to All’, is a term that describes the divine preaching hall or the assembly of the

Tirthankara after attaining perfect knowledge or Kevala Jnana. This place of pilgrimage, at the crest of a hillock with rocks and thick bushes around, attracts many Jains and believers of astrology.

The entire rocky terrain of the hill has imprints of small, pink coloured meditation places with the footprints of Jain Thirthankaras. There are 24 of these cells spread all over the hill. It is a pleasure to take a stroll along the neatly laid path and see these peaceful spots. The surrounding hills have many caves that were used by mendicants for meditation and prayer.

1.1.7.4 HIMAVAD GOPALASWAMY HILLS

HimavadGopalaswamy Betta is a hill near the Bandipura Wildlife Sanctuary in the Gundlupete Taluk.It is one of those isolated yet accessible attractions in this part of Karnataka and is located some 87km southwest of Mysore on the Mysore to Ooty road. It is famous for the Gopalaswamy temple which is atop the hill. Gopalaswamy is an incarnation of the Hindu God Krishna.The temple is located atop a hill popularly called Himavad Gopalaswamy Temple.

Pic: 1.1.7.4. Himavad Gopalaswamy Hills

This place is known for its scenic beauty, religious significance and also as a mini adventure flavored picnic spot. The junction is in the middle of a dense and contiguous forest region called the Nilgiri biosphere that's part of the Western Ghats. The sanctuary of the temple contains the idol of Krishna as Gopala (Krishna's aspect as cowherd), and hence the name Gopalaswamy.

Thanks to the foggy nature of the place, the lintel of the doorjambs to the inner hall is often spotted with icicles hanging from it. Therefore the prefix Himavad (Himada / Himad - all means snowy/foggy*)* Gopalaswamy temple.The car is assembled for the annual festival during the February-March (according to Hindu calendar Sravana of Phalguna).

1.1.7.5 CHAMARAJESHWARA TEMPLE

Chamarajashwara in Chamarajanagar, Karnataka is dedicated to Lord Shiva and is one of the largest temples in the area. It was built during the end of 19th century in an area of 232×195 square feet . The temple is built in the Hoysala style of architecture, the paintings and stucco colored scenes from mythology and the crenellated decorations, featuring gods and goddesses on the compound and temple walls, is eye-catching. It is famous for the Ratha Yatra or chariot festival celebrated in the month of Aashada (July – August).

Pic: 1.1.7.5. Chamarajeshwara Temple

1.1.7.6 BANDIPUR NATIONAL PARK

Bandipur National Park established in 1974 as a tiger reserve under Project Tiger, is a national parklocated in Gundlupete taluk, which is 70 km away from Mysore on the way to OOTY. It was once a private hunting reserve for the Maharaja of the Kingdom of Mysore but has now been upgraded to Bandipur Tiger Reserve. Bandipur is known for its wildlife and has many types of biomes, but dry deciduous forestis dominant.

Pic: 1.1.7.6. Bandipura National Park

Pic: 1.1.7.6(a) BANDIPUR NATIONAL PARK

kilometers (337 sq mi), protecting several species of India's endangered wildlife. Togetherwith the adjoining NagarholeNational Park (643 km2 (248 sq mi)), MudumalaiNational Park (320 km2 (120 sq mi)) and Wayanad Wildlife Sanctuary(344 km2 (133 sq mi)), it is part of the Nilgiri BiosphereReserve totaling 2,183 km^2 (843 sq m) making it the largest protected area in southern India and largest habitate of wild elephants in south Asia. Bandipuris located in Gundlupet taluk of Chamarajanagar district. It is about 80 kilometers (50 mi) from the city of Mysore on the route to a major tourist destination of Ooty.

1.2. DEMOGRAPHY

As per the 2011 Census there are 424 Villages and the total Population 1,020,791 includes 100648 (9.85%) child and 508560 (49.81%) women population. Urban population is nearly about 17.14% it indicates that maximum people live in rural area and depend on agriculture and allied sectors for their livelihood. The total household in the district are 203466 out of this 50577 (24.85%) SC and 22968 (11.28%) SThouseholds are there.As per the census of 2001 women ratio with thousand men was 971 but now it is increased and found 993. It means awareness to save woman child is developed among the people. It is a good sign of progress. The district has a population density of 180 inhabitants per square kilometre. The details of break up for men, women, and children also SC, ST, General Population as provided in below the table

TABLE: 1.2.1. DEMOGRAPHY

Sl. No	Name of the Block	Code of Villages covered	Population				SC		ST		General		Total	
			Male	Female	Child	Total	No. of house hold	No. of Members	No. of house hold	No. of Members	No. of house hold	No. of Members	No. of house hold	No. of Members
1	Chamaraja nagar	179	178555	179244	35384	357799	16150	85829	7180	36920	45973	235050	69303	357799
2	Gundlupet	136	111109	111961	20495	223070	9728	43056	5467	28695	33289	151319	48484	223070
3	Kollegal	85	181388	176465	36771	357853	18179	101508	7881	40072	41731	216273	67791	357853
4	Yelandur	28	41179	40890	7998	82069	6520	29052	2440	16532	8928	36485	17888	82069
	Total	**428**	**512231**	**508560**	**100648**	**1020791**	**50577**	**259445**	**22968**	**122219**	**129921**	**639127**	**203466**	**1020791**

Source: Population Census 2011

1.3. BIOMASS AND LIVESTOCK

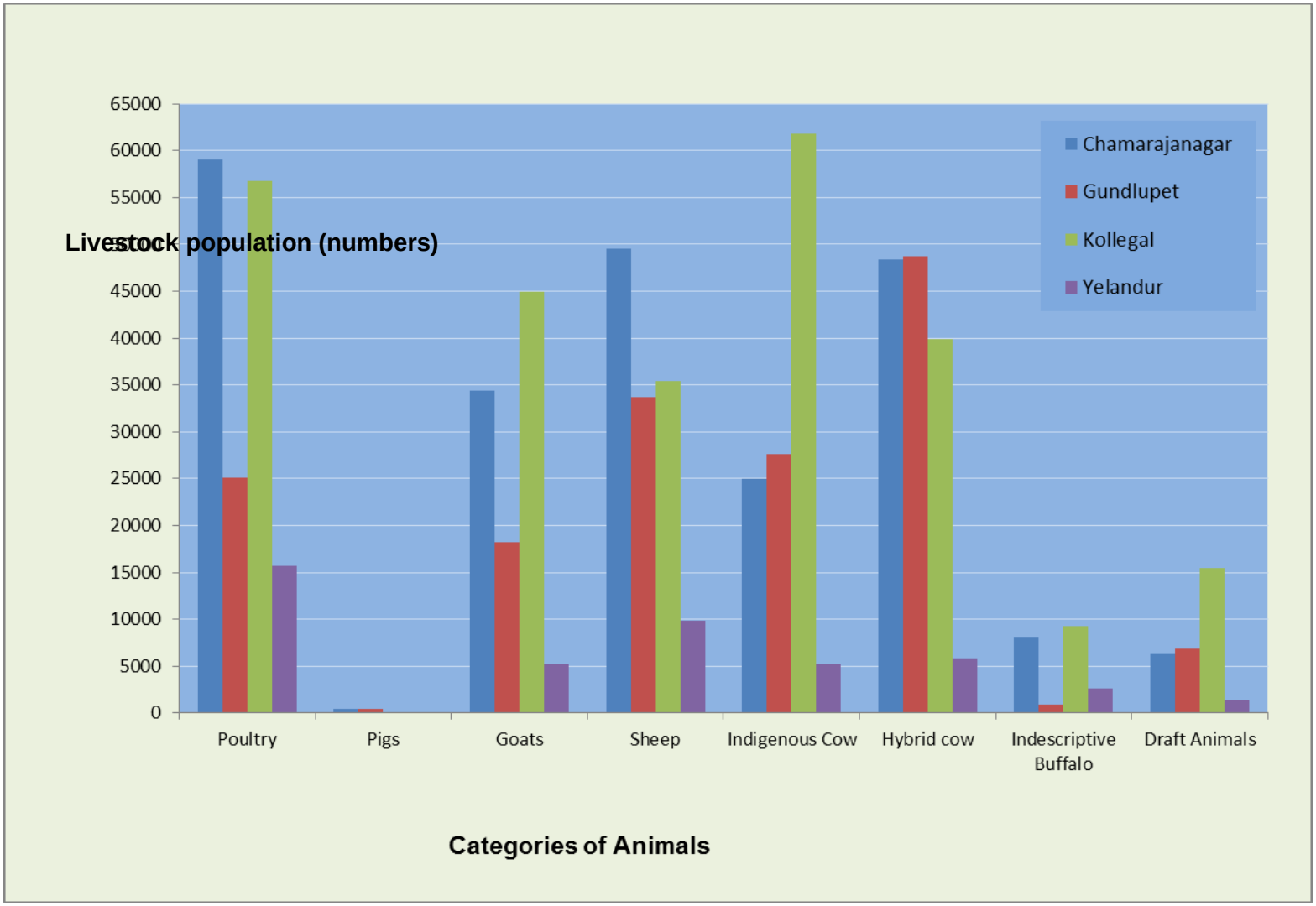
The livestock in the district is 672838. Kollegala taluk is having the highest livestock contributing 36.9% livestock, followed by Chamrajanagar, Gundlupete and Yelandur contributing 33.43%, 23.01% and 6.66% respectively. Among large animals the Hybrid cows are 21.23% followedby 17.77% Indigenouscows and Buffalo 3.10%.The draft animal for agriculture farming purpose are 4.44%. The average milk production in the district is 2.6 lakhlitres per day. It is very low as compare to other districts. KMF was established in Chamarajanagar District and the farmers earn additional income by sending the excess milk produced to the neighbouring districts.

Table: 1.3.1. Livestock population of Chamrajanagar district

Sl. No	Name of the Block	Small Animals					Large Animals				Any other Milch or Meat Animal	Draft Animal(Buffalo/yak/bulls) any other (Nos)	TOTAL LIVE STOCKS
		Poultry (Nos)	Duck (Nos)	Pigs (No)	Goats (Nos)	Sheep (Nos)	Indigenous Cow (Nos)	Hybrid cow (Nos)	Indescriptive Buffalo (Nos)	Hybrid Buffalo (Nos)			
1	Chamarajanagar	59029	30	468	34361	49497	25002	48366	8135	0	83	6250	224971
2	Gundlupet	25161	13	448	18231	33661	27588	48788	926	0	43	6897	154859
3	Kollegal	56823	0	61	44953	35445	61758	39919	9247	0	113	15439	248319
4	Yelandur	15696	39	72	5309	9880	5281	5818	2579	0	15	1320	44689
	TOTAL	**156709**	**82**	**1049**	**102854**	**128483**	**119629**	**142891**	**20887**	**0**	**254**	**29906**	**672838**

Source: Livestock Census of India-2012

Pic: 1.3.1. Livestok Population of Chamarajanagara District

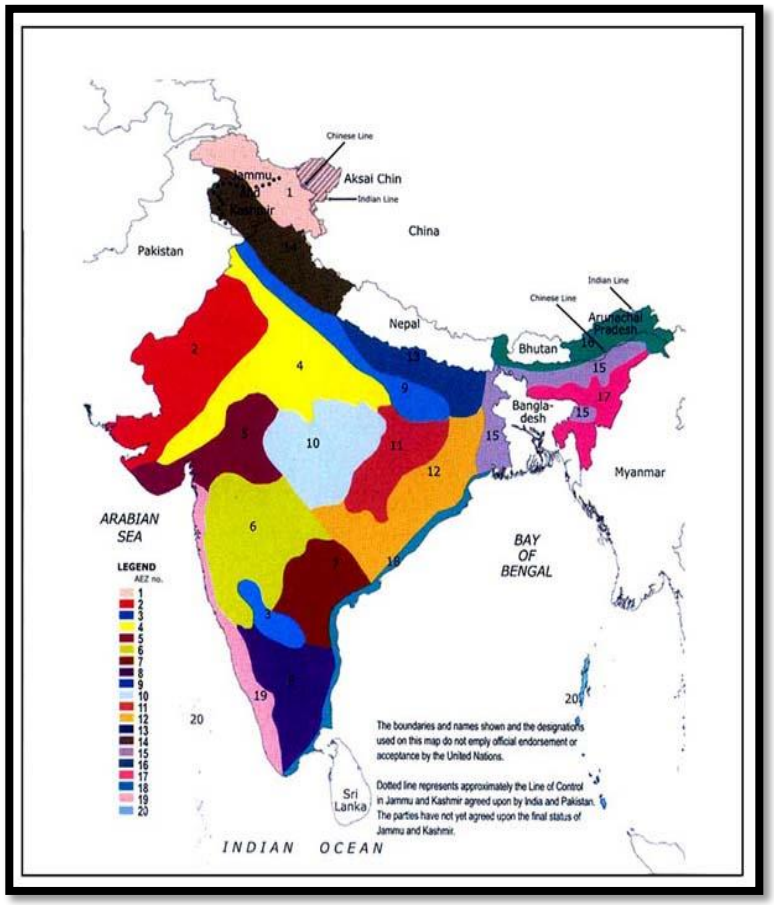


Source: Livestock Census of India-2012

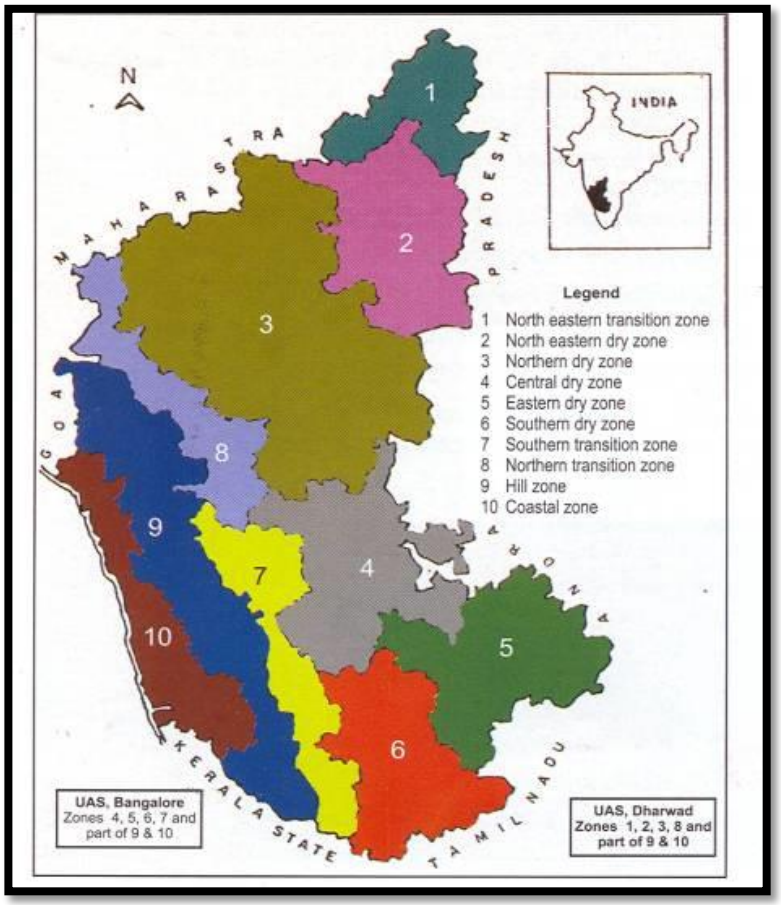
1.4. AGRO- ECOLOGY-CLIMATE, HYDROLOGY AND TOPOGRAPHY

1.4.1. Agro Ecological Zone

Zone No. & Name	District (No. of Taluks)	Name of Taluks
6. Southern Dry Zone	Chamarajnagar(4)	Chamarajanagar, Gundlupet, Kollegal, Yelandur



Map: 1.4.1(a) Agro Ecological Zones of India



Map: 1.4.1(b) Agro Ecological Zones of Karnataka

Table: 1.4. 1(a) Agro Ecological Zone

Sl. No	Name of the Block	Agro Ecological Zone Type	Type of Terrain	Block Area (ha)	Normal Annual Rainfall (mm)	Average Monthly Rainfall (mm)	No of Rainy Days (No) Annual	Maximum Rainfall Intensity (mm)			Average Weekly Temperature (c)									PotencialEvapo-Transpiration				Elevation (Above MSL) Excluding bills		
											Period									Period						
											Summer (April-May)			Winter (Oct-Mar)			Rainy (June-Sept)									
								Up to 15 Min	Beyond 15 but up to 30 Min	Beyond 30 but up to 30 Min	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Summer	Winter	Rainy Season	Annual	Min	Max	Mean
1	Chamarajangara	Hot semi arid	Hillyand undulating terrain	123078	769.3	-	131	65	70	90	20.7	35.7	28.2	19.7	33.1	26.4	16	35	25.1	274	762	447.3	1484	561	1164	863
2	Gundlupete	Hot semiarid	Hilly and undulating terrain	140607	771.7	-	117	65	70	90	20.9	35.7	28.3	19.7	33	26.35	16	35	25.2	270	764	433.8	1467	450	1317	884
3	Kollegala	Hot semi arid	Hilly and undulating terrain	279743	802.2	-	134	65	70	90	20.8	37.4	29.1	20.5	34.9	27.7	16	36	26.2	278	760	454.3	1492	453	1549	1001
4	Yelanduru	Hot semi arid	Hilly and undulating terrain	26473	877.7	-	143	65	70	90	20.8	37.4	29.1	20.5	34.8	27.65	16	36	26.2	274	763	452.9	1490	542	1415	979

1.4.2. Type of terrain

The type of terrain is hilly with undulated plains. The district is at an altitude of 863 meters above MSL.

1.4.3. Climate and Rainfall

The climate of Chamarajanagar district is quite moderate throughout the year with a fairly hot summer and cold winter. March to May are the summer months. The mean maximum temperature is 34°C and the mean minimum temperature is 16.4°C. Relative humidity ranges from 69 to 85% in the morning and from 21% to 70% in the evening. The wind speed ranges from 8.4 to 14.1 kmph. The potential evapotranspiration in the district ranges from 106 mm to 165 mm/year. The average Normal annual rainfall of the district (KSNDMC, Govt of Karnataka) is 791.2mm (Table. 1). The highest rainfall is received in Yalandur taluk (877.7 mm) followed by Kollegala taluk (802 mm) Gundlepete (771.2mm) and Chamarajanagar (769.3mm) taluks. Chamrajanagar district is receiving bimodal rainfall. It receives 29.10% of the annual rainfall in the premonsoon season (April to May). 38.5 % of annual rainfall during the SW monsoon (June –September), 32.4% during post-monsoon or NE monsoon (October – December). The analysis of rainfall for the above period indicates that though the Premonsoon is more predominant, substantial rainfall is also received during the post-monsoon or NE monsoon period. The average annual rainy days are 54. Thus, it can be seen that a bimodal distribution rainfall during different seasons. Dry spell regularly occur during June and July once in 2-3 years, which directly affect the rain fed agriculture in the district.

Table: 1.4.3.1(a) Talukwise Monthly Rainfall

	Monthly Normal Rainfall (mm)													
Sl no.	Taluks	January	February	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1	**CHAMARAJANAGAR**	2.4	5.9	12.5	63.9	141.9	49.2	48.1	72.5	120.5	162.0	66.6	23.8	769.3
2	**GUNDLUPET**	4.2	6.8	15.6	75.2	141.3	48.8	66.1	43.7	113.9	157.0	73.9	25.2	771.7
3	**KOLLEGAL**	1.5	5.5	10.7	64.9	142.0	53.9	54.4	71.0	140.6	171.4	63.2	23.1	802.2
4	**YELANDUR**	1.3	3.5	13.3	69.3	148.2	64.3	62.9	87.8	163.5	175.7	66.6	21.3	877.7
	District Average	**2.3**	**5.7**	**12.7**	**67.4**	**142.1**	**52.1**	**56.0**	**65.5**	**130.9**	**166.1**	**66.8**	**23.6**	**791.2**

Source: KSNDMC, Bengaluru.

Table: 1.4.3.1(b) .Ten Years Average Rainfall of Chamarajanagar District

Season	Month	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten years Average
SUMMER	Jan	0.0	0.0	0.0	0.7	0.6	0.2	1.5	0.3	0.2	0.8	**0.4**
	Feb	0.0	0.0	15.6	0.0	4.2	14.9	0.2	2.7	3.1	0.8	**4.2**
	Mar	22.9	0.0	92.9	14.9	9.9	16.8	0.4	4.5	20.5	28.8	**21.1**
	Total	**22.9**	**0.0**	**108.4**	**15.6**	**14.7**	**31.8**	**2.1**	**7.5**	**23.8**	**30.5**	**25.7**
PRE-Monson	Apr	61.7	44.8	62.9	59.7	82.7	83.3	84.3	62.2	30.6	102.6	**67.5**
	May	95.4	92.0	105.0	150.2	111.4	107.6	63.6	83.2	131.5	157.4	**109.7**
	Total	**157.0**	**136.8**	**167.9**	**209.9**	**194.1**	**190.8**	**147.9**	**145.4**	**162.1**	**260.0**	**177.2**
SW-Monsoon	Jun	32.6	67.6	54.8	106.7	62.8	44.2	16.4	49.0	59.3	84.9	**57.8**
	July	10.1	100.6	55.7	61.4	70.7	39.1	32.2	70.6	64.5	16.0	**52.1**
	Aug	25.5	112.2	130.3	129.5	122.4	69.8	59.5	87.6	115.4	89.7	**94.2**
	Sep	101.5	79.3	30.2	131.1	60.8	23.8	47.3	164.6	106.9	104.9	**85.0**
	Total	**169.7**	**359.8**	**271.1**	**428.7**	**316.7**	**177.0**	**155.4**	**371.7**	**346.0**	**295.4**	**289.1**
NE-Monsoon	Oct	62.7	210.1	237.6	48.0	141.8	132.4	127.5	107.9	146.6	125.0	**133.9**
	Nov	83.1	68.0	46.6	85.4	201.6	104.7	60.2	46.3	12.3	197.4	**90.5**
	Dec	0.4	72.5	0.3	41.1	14.1	8.6	13.1	4.5	9.4	14.9	**17.9**
	Total	**146.2**	**350.6**	**284.4**	**174.4**	**357.5**	**245.6**	**200.8**	**158.7**	**168.3**	**337.2**	**242.4**

Pic: 1.4.3.1(b) Monthwise Rainfall Pattern of Chamarajanagar District

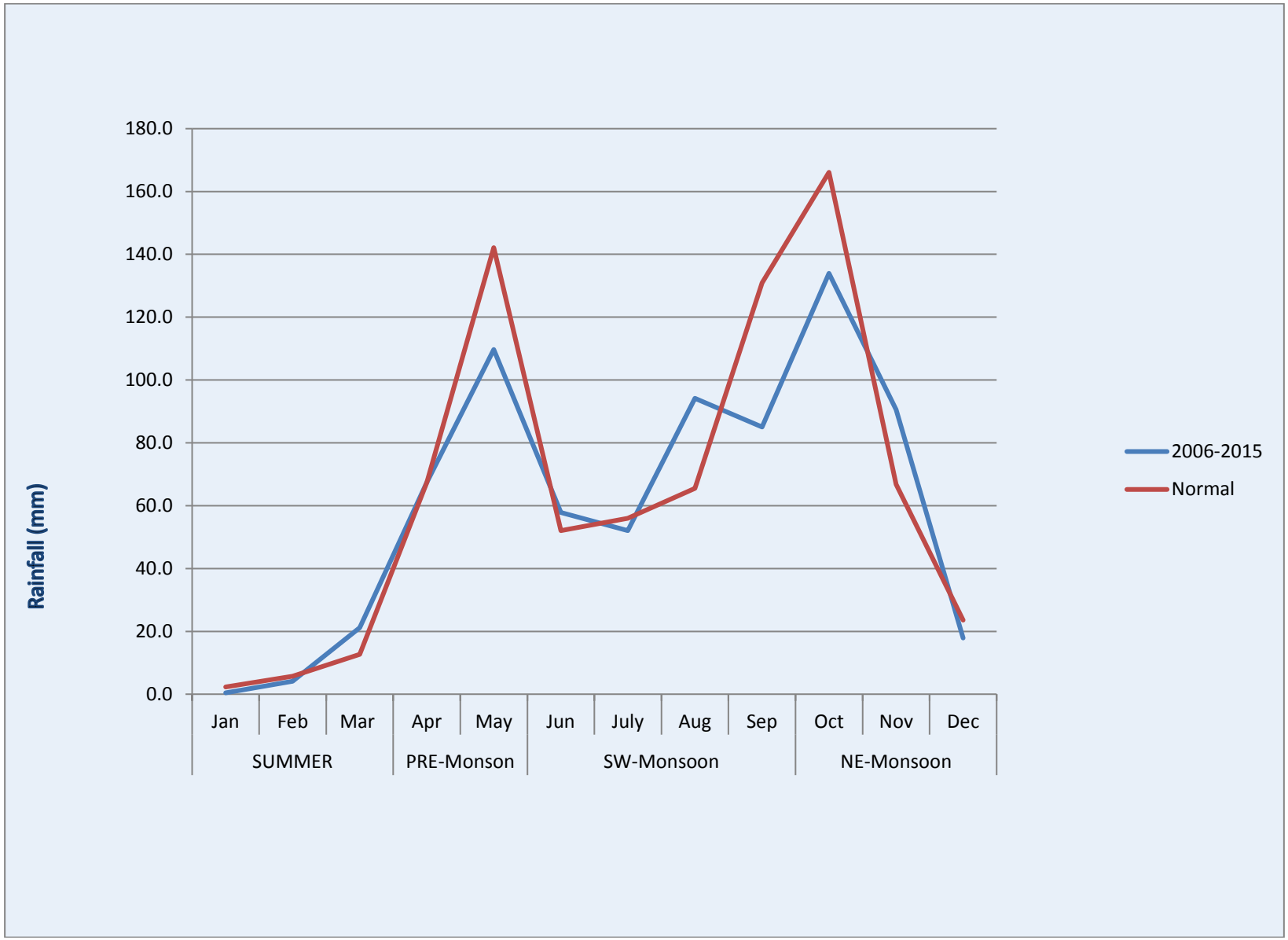


Table: 1.4.3.2Ten Years Average Rainfall (mm) of Chamarajanagar Taluk

Season	Month	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten years Average
SUMMER	Jan	0.00	0.00	0.00	0.10	1.00	0.20	1.10	0.40	0.00	0.50	**0.33**
	Feb	0.00	0.00	48.80	0.00	4.60	16.30	0.60	4.10	2.10	0.90	**7.74**
	Mar	44.80	0.00	107.09	15.30	5.40	21.00	0.20	2.70	14.50	30.30	**24.13**
	Total	**44.80**	**0.00**	**155.89**	**15.40**	**11.00**	**37.50**	**1.90**	**7.20**	**16.60**	**31.70**	**32.20**
PRE-Monson	Apr	52.20	24.90	87.40	67.10	67.80	90.30	87.10	47.20	26.50	83.10	**63.36**
	May	86.90	124.20	105.50	110.90	80.30	95.10	84.40	91.30	122.10	171.10	**107.18**
	Total	**139.10**	**149.10**	**192.90**	**178.00**	**148.10**	**185.40**	**171.50**	**138.50**	**148.60**	**254.20**	**170.54**
SW-Monsoon	Jun	42.60	56.10	60.80	27.10	44.40	47.20	18.20	30.40	49.50	72.70	**44.90**
	July	4.60	115.20	48.30	41.40	53.10	35.10	37.20	49.60	53.30	15.00	**45.28**
	Aug	24.90	94.50	159.60	102.20	95.00	77.40	53.30	76.40	125.60	95.80	**90.47**
	Sep	138.80	46.20	37.50	80.30	70.10	20.80	53.30	174.70	119.10	104.10	**84.49**
	Total	**210.90**	**312.00**	**306.20**	**251.00**	**262.60**	**180.50**	**162.00**	**331.10**	**347.50**	**287.60**	**265.14**
NE-Monsoon	Oct	39.90	156.60	127.00	48.60	171.40	114.30	91.10	122.90	136.80	115.90	**112.45**
	Nov	103.00	64.70	39.40	68.60	219.10	112.20	37.70	39.20	9.10	180.50	**87.35**
	Dec	1.70	88.50	0.00	52.20	9.70	7.90	9.60	1.30	11.40	13.10	**19.54**
	Total	**144.60**	**309.80**	**166.40**	**169.40**	**400.20**	**234.40**	**138.40**	**163.40**	**157.30**	**309.50**	**219.34**

Pic: 1.4.3.2. Ten Years Average Rainfall (mm) of Chamarajanagar Taluk

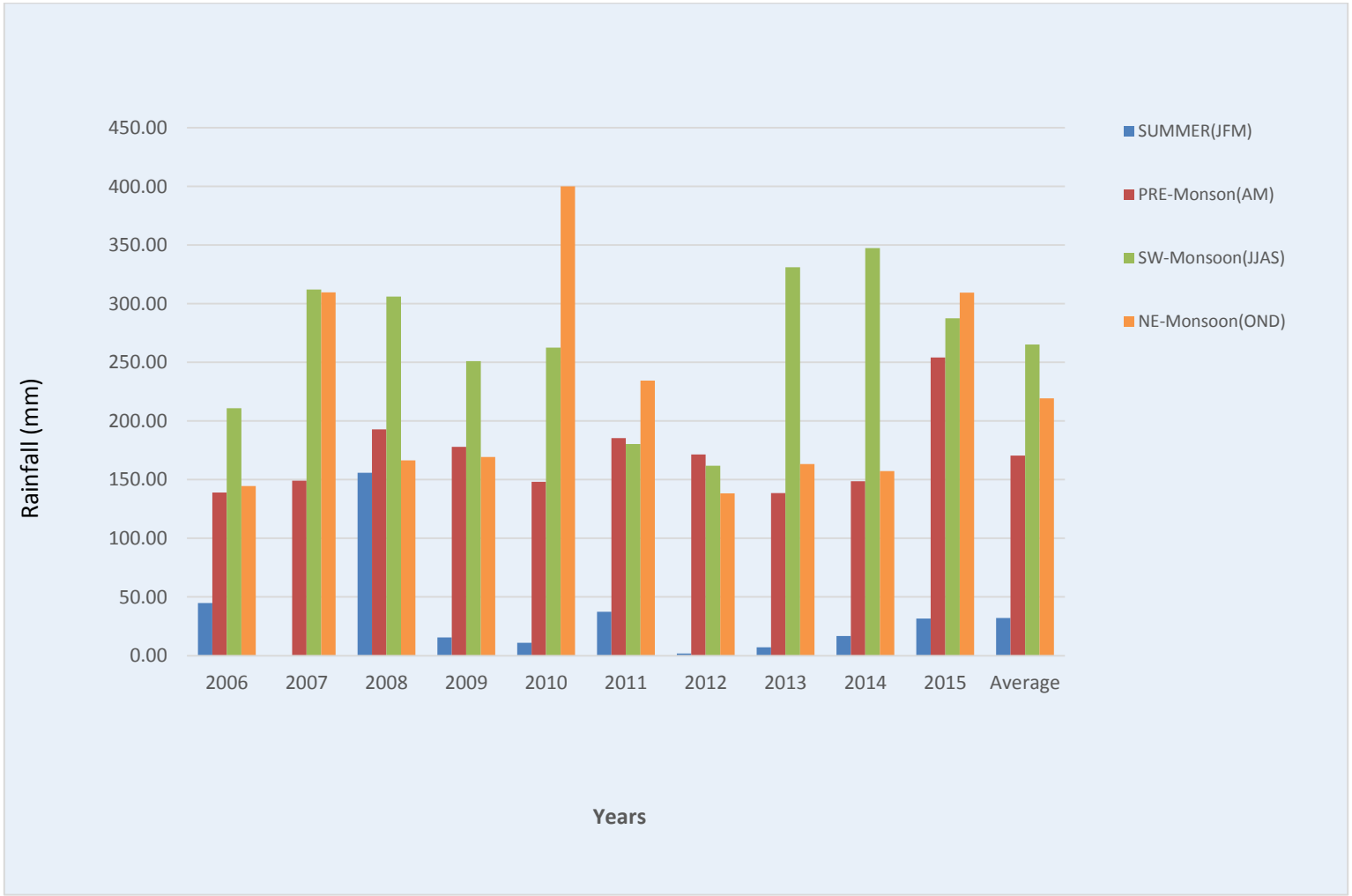


Table: 1.4.3.3. Ten Years Average Rainfall (mm) of Gundlupet Taluk

Season	Month	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten years Average
SUMMER	Jan	0.00	0.00	0.00	0.10	0.90	0.40	3.90	0.10	0.80	1.10	**0.73**
	Feb	0.00	0.00	8.00	0.00	5.90	17.00	0.30	2.50	6.10	2.20	**4.20**
	Mar	1.00	0.00	136.00	17.10	9.10	17.80	0.40	0.50	31.20	21.50	**23.46**
	Total	**1.00**	**0.00**	**144.00**	**17.20**	**15.90**	**35.20**	**4.60**	**3.10**	**38.10**	**24.80**	**28.39**
PRE-Monson	Apr	62.60	85.00	66.00	38.40	78.00	98.00	120.10	91.30	68.00	109.80	**81.72**
	May	138.80	142.00	133.00	151.60	102.30	48.10	70.10	57.00	133.20	132.50	**110.86**
	Total	**201.40**	**227.00**	**199.00**	**190.00**	**180.30**	**146.10**	**190.20**	**148.30**	**201.20**	**242.30**	**192.58**
SW-Monsoon	Jun	17.40	89.00	91.00	224.50	37.90	70.50	20.00	78.20	55.10	89.50	**77.31**
	July	16.30	51.50	86.00	101.70	65.30	40.30	21.60	126.60	77.30	20.50	**60.71**
	Aug	3.00	156.00	103.00	127.20	92.70	52.40	52.30	80.30	127.10	66.40	**86.04**
	Sep	132.10	111.50	6.00	100.20	66.30	28.20	50.10	86.00	106.60	93.10	**78.01**
	Total	**168.80**	**408.00**	**286.00**	**553.60**	**262.20**	**191.40**	**144.00**	**371.10**	**366.10**	**269.50**	**302.07**
NE-Monsoon	Oct	48.00	294.00	463.00	48.70	84.30	126.60	116.60	127.50	159.30	112.80	**158.08**
	Nov	60.00	104.00	54.00	118.50	165.20	71.10	79.90	33.20	9.80	129.00	**82.47**
	Dec	0.00	94.50	1.00	40.10	9.30	1.90	19.20	7.10	7.40	16.90	**19.74**
	Total	**108.00**	**492.50**	**518.00**	**207.30**	**258.80**	**199.60**	**215.70**	**167.80**	**176.50**	**258.70**	**260.29**

Pic: 1.4.3.3. Ten Years Average Rainfall (mm) of Gundlupet Taluk

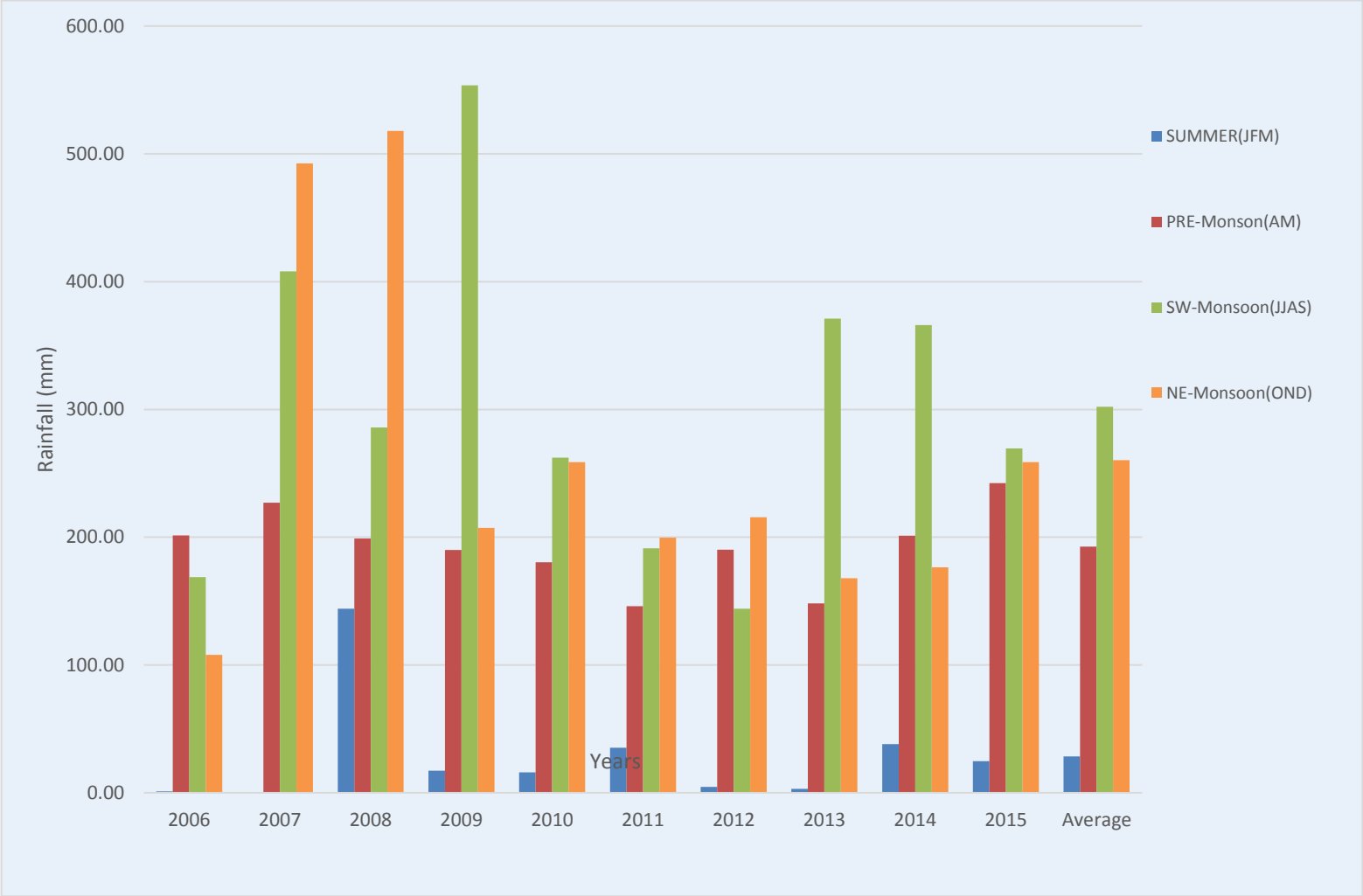


Table: 1.4.3.4Ten Years Average Rainfall (mm) of Kollegala Taluk

Season	Month	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten years Average
SUMMER	Jan	0.00	0.00	0.00	0.90	0.30	0.00	0.40	0.20	0.00	1.10	**0.29**
	Feb	0.00	0.00	0.00	0.00	0.20	24.70	0.00	2.30	3.80	0.10	**3.11**
	Mar	2.20	0.00	38.00	10.10	6.20	28.00	0.40	10.10	26.20	26.90	**14.81**
	Total	**2.20**	**0.00**	**38.00**	**11.00**	**6.70**	**52.70**	**0.80**	**12.60**	**30.00**	**28.10**	**18.21**
PRE-Monson	Apr	38.80	54.80	31.20	40.70	94.80	95.30	48.90	45.80	18.10	114.20	**58.26**
	May	87.40	48.20	63.20	166.80	140.90	129.00	65.90	68.50	121.40	159.20	**105.05**
	Total	**126.20**	**103.00**	**94.40**	**207.50**	**235.70**	**224.30**	**114.80**	**114.30**	**139.50**	**273.40**	**163.31**
SW-Monsoon	Jun	27.60	58.20	40.20	67.30	57.70	19.50	17.20	44.20	76.20	69.30	**47.74**
	July	8.60	73.40	41.40	32.00	116.40	42.30	41.60	49.20	45.10	11.40	**46.14**
	Aug	31.20	111.40	137.00	120.70	127.90	75.20	53.80	97.10	105.60	117.80	**97.77**
	Sep	45.40	120.80	32.20	196.80	56.10	16.20	41.60	163.50	84.90	116.50	**87.40**
	Total	**112.80**	**363.80**	**250.80**	**416.80**	**358.10**	**153.20**	**154.20**	**354.00**	**311.80**	**315.00**	**279.05**
NE-Monsoon	Oct	69.40	179.80	195.20	47.10	141.70	141.00	164.10	105.40	151.70	152.90	**134.83**
	Nov	97.60	60.00	42.80	64.80	154.50	105.40	61.20	74.50	21.30	262.20	**94.43**
	Dec	0.00	41.60	0.00	35.30	18.70	15.20	14.90	6.80	12.50	18.40	**16.34**
	Total	**167.00**	**281.40**	**238.00**	**147.20**	**314.90**	**261.60**	**240.20**	**186.70**	**185.50**	**433.50**	**245.60**

Pic: 1.4.3.4. Ten Years Average Rainfall of Kollegala Taluk

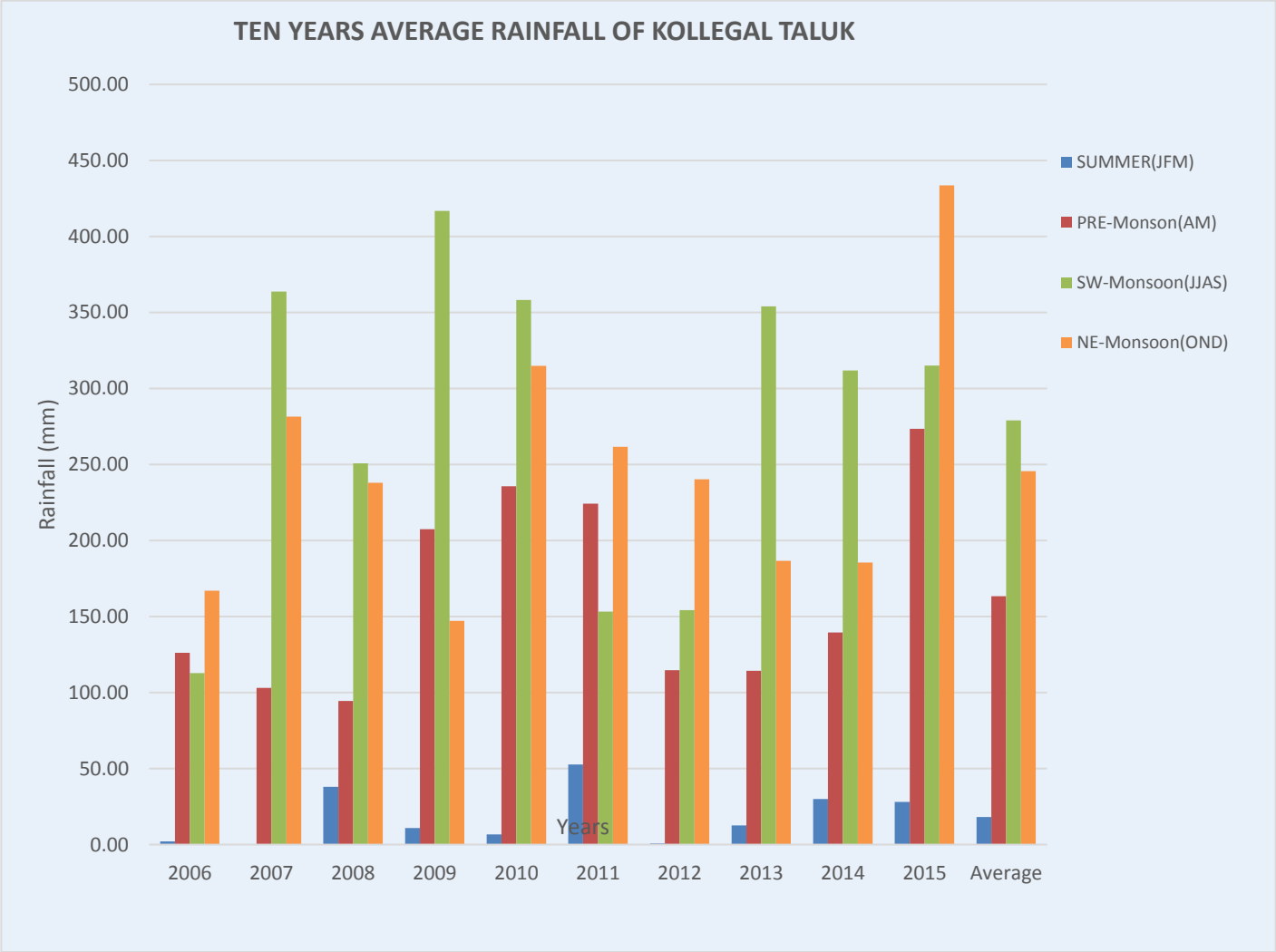
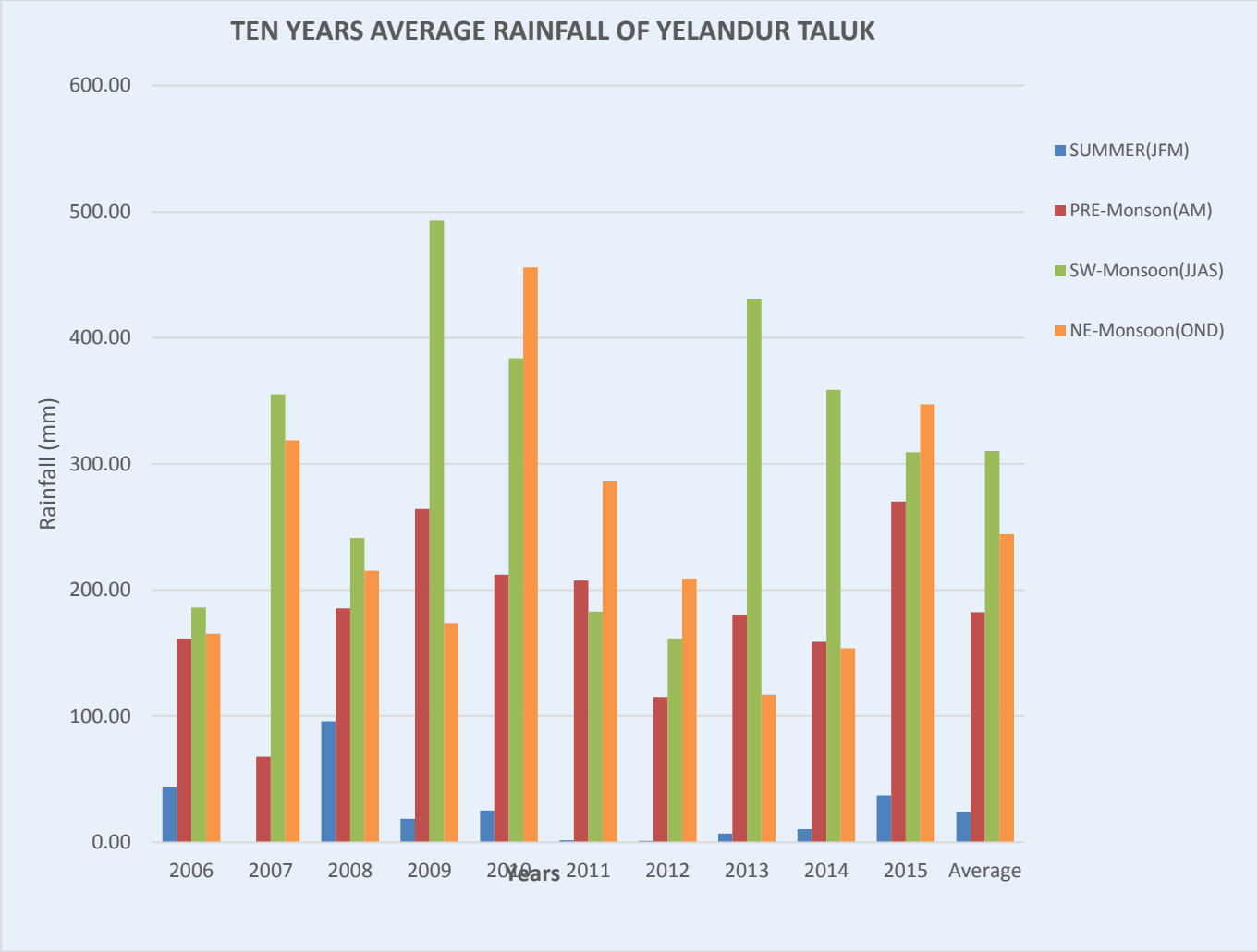


Table: 1.4.3.5. Ten Years Average Rainfall of Yelanduru Taluk

Season	Month	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten years Average
SUMMER	Jan	0.00	0.00	0.00	1.80	0.20	0.00	0.50	0.50	0.10	0.50	**0.36**
	Feb	0.00	0.00	5.40	0.00	6.10	1.40	0.00	2.00	0.50	0.10	**1.55**
	Mar	43.40	0.00	90.40	16.90	19.00	0.20	0.50	4.50	9.90	36.60	**22.14**
	Total	**43.40**	**0.00**	**95.80**	**18.70**	**25.30**	**1.60**	**1.00**	**7.00**	**10.50**	**37.20**	**24.05**
PRE-Monson	Apr	93.00	14.50	66.90	92.60	90.00	49.40	81.20	64.50	9.60	103.40	**66.51**
	May	68.40	53.40	118.40	171.50	122.20	158.00	33.90	116.00	149.30	166.70	**115.78**
	Total	**161.40**	**67.90**	**185.30**	**264.10**	**212.20**	**207.40**	**115.10**	**180.50**	**158.90**	**270.10**	**182.29**
SW-Monsoon	Jun	42.70	67.20	27.20	108.00	111.00	39.70	10.20	43.30	56.30	107.90	**61.35**
	July	10.90	162.30	47.20	70.30	48.10	38.80	28.30	56.80	82.30	17.10	**56.21**
	Aug	43.00	87.00	121.60	167.70	174.00	74.30	78.60	96.60	103.10	78.60	**102.45**
	Sep	89.50	38.80	45.20	147.20	50.70	30.00	44.30	234.00	117.00	105.70	**90.24**
	Total	**186.10**	**355.30**	**241.20**	**493.20**	**383.80**	**182.80**	**161.40**	**430.70**	**358.70**	**309.30**	**310.25**
NE-Monsoon	Oct	93.30	209.80	165.20	47.40	169.90	147.70	138.30	75.90	138.40	118.20	**130.41**
	Nov	71.90	43.30	50.00	89.70	267.40	129.90	62.10	38.30	9.10	217.70	**97.94**
	Dec	0.00	65.50	0.00	36.60	18.60	9.20	8.60	2.60	6.20	11.30	**15.86**
	Total	**165.20**	**318.60**	**215.20**	**173.70**	**455.90**	**286.80**	**209.00**	**116.80**	**153.70**	**347.20**	**244.21**

Pic: 1.4.3.5. Ten Years Average Rainfall of Yelandur Taluk



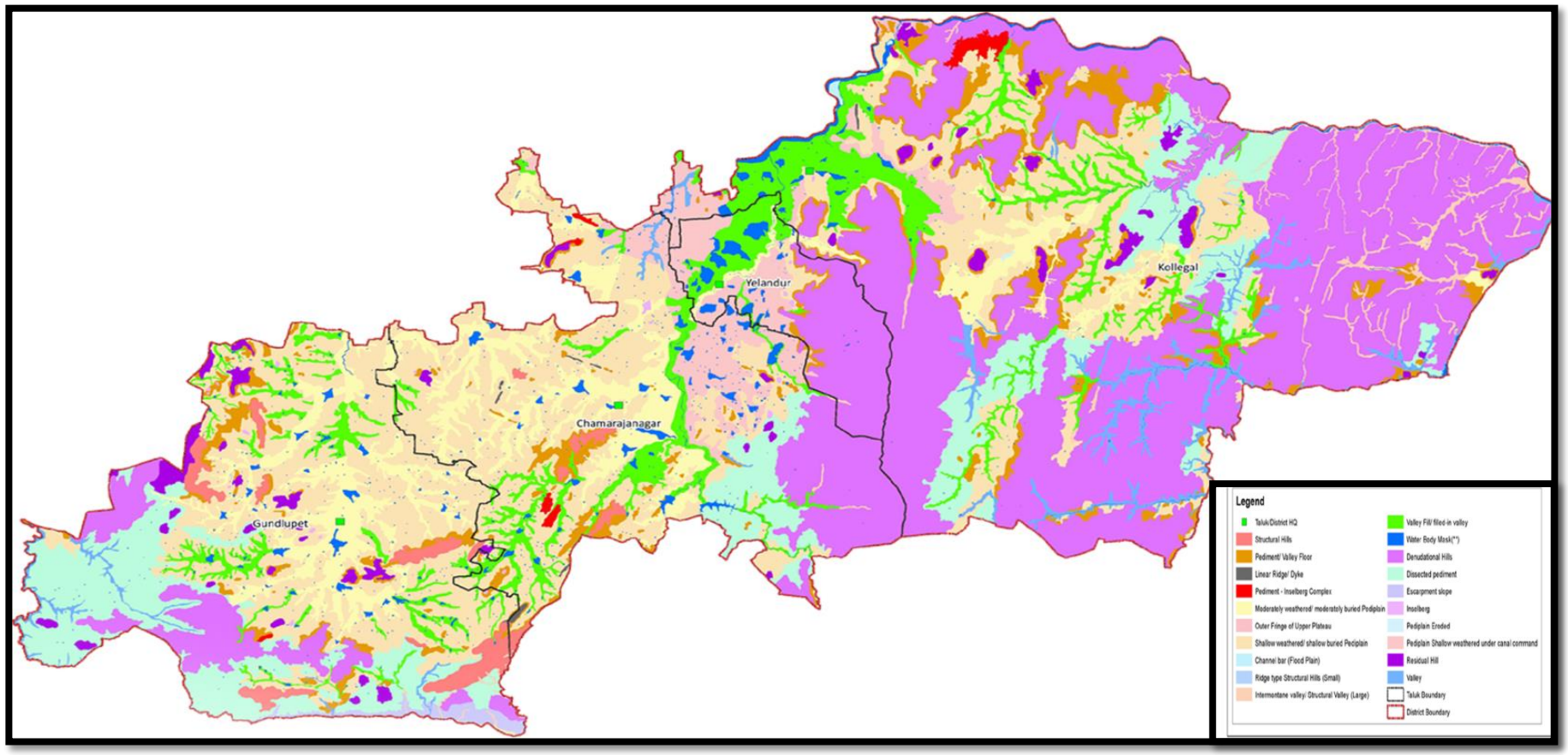
1.5. SOIL PROFILE

1.5.1. Geomorphology and Soil Types

Physiographically the district may be classified as partly maidan, general table land with plain and undulating and mountainous region. The southern and eastern hill ranges in the district converge into group of hills. The landmass of the area forms an undulating table land and the lofty mountain ranges are covered with dense forest. Master slope runs from south to north towards the river Cauvery. Normally the slopes are covered by debris and colluvium filled channels. The general elevation is 656 m amsl. The eastern and southern portions of Kollegal taluk form continuous lofty hills such as Malaimahadeshwar Hills (M.M. Hills) with an elevation of 976m amsl and many other hill ranges such as Anemale, Kadumale, Jenumale, etc. Dodda sampige is another hill range which runs north to south for 6 kms in Kollegal taluk. Biligirirangana betta in Yelandur taluk, Gopalaswamy hills in Gundlupet also form the hill ranges in the district.

The Shivanasamudra island and Edacura village towards north of Kollegal taluk form important features formed due to meandering and confluence of Cauvery river. The soils of the district are derived from Granitic gneisses and Charnockite rock formations. Red soil is present in upland areas and at the contact of granites and schist. These soils are admixture of sand and silt. Organic matters in these soils are low and respond well for irrigation, manuring and other management practices. The thickness of the soil varies from less than a meter to 6.5 m. Black soils are clayey and black in colour, mostly of transported origin, occurring along depressions where regular irrigation practices are in practice. It has a high moisture holding capacity. Mixed type of soils are localised at places along the contact of schist and other intrusions. These are derived either from gneisses or schist. These are medium to fine grained and moderately permeable. The thickness varies from 1m to 16.5m.

Map: 1.5.1. Geomorphology Map of Soils



1.5.2. SOIL TYPE

Chamarajanagara District has Various Types of Soil as Shown in table 1.5.2(b) Namely Very shallow red gravelly loam soils, shallow red gravelly clay soils, Shallow red gravelly mixed with deep black soils, Medium deep red clayey soils, Medium deep red gravelly clay soils, Deep red gravelly loam soils, Deep red gravelly clay soils, Deep laterite gravelly clay soils, Deep alluvial clayey soils (salt affected in patches) Rocky land Water body, Deep red gravelly loam soils, Medium deep laterite gravelly clay soils, Deep forest brown clayey soils (gravelly in patches) Rocky land associated with shallow red gravelly clay soils.

Table: 1.5.2. Soil Classification of Chamarajanagar District

Sl No	Traditional Soil	Area in ha.				Total
		Chamarajanagar	Gundlupet	Kollegala	Yelandur	
1	Very shallow, red gravelly loam soils	3231.45	7012.96	10251.54	-	20495.95
2	Shallow, red gravelly clay soils	10308.93	-	33760.44	-	44069.38
3	Shallow, red gravelly mixed with deep black soils	272.82	-	-	-	272.82
4	Medium deep, red clayey soils	26156.42	25559.74	24244.15	4856.33	80816.64
5	Medium deep, red gravelly clay soils	32874.56	27866.41	121440.68	10588.79	192770.44
6	Deep, red gravelly loam soils	2915.09	11325.85	-	-	14240.94
7	Deep, red gravelly clay soils	2962.46	-	24146.54	-	27109.00
8	Deep, laterite gravelly clay soils	4334.62	948.13	-	-	5282.75
9	Deep, black calcareous clayey soils	25128.80	-	2987.36	8492.03	36608.19
10	Deep, alluvial clayey soils (salt affected in patches)	7672.74	7185.41	13409.08	2766.91	31034.15
11	Rocky land	4819.56	-	7833.15	-	12652.71
12	Water body	178.81	-	887.16	-	1065.97
13	Deep, red gravelly loam soils	-	-	-	-	0.00
14	Medium deep, laterite gravelly clay soils	-	28732.29	-	-	28732.29
15	Deep, laterite clayey soils	-	1662.06	-	-	1662.06
16	Deep, forest brown clayey soils (gravelly in patches)	-	13494.25	-	-	13494.25
17	Rocky land associated with shallow, red gr. clay soils	-	12586.20	37554.53	-	50140.73
	TOTAL AREA	**120856.28**	**136373.29**	**276514.64**	**26704.07**	**560448.27**

1.5.3 SOIL DEPTH

The depth of soil is particularly important where water harvesting systems are proposed. Deep soils have the capacity to store the harvested runoff as well as providing a greater amount of total nutrients for plant growth. Soils of less than one metre deep are poorly suited to Water harvesting. Two metres depth or more is ideal, though rarely found in practice.

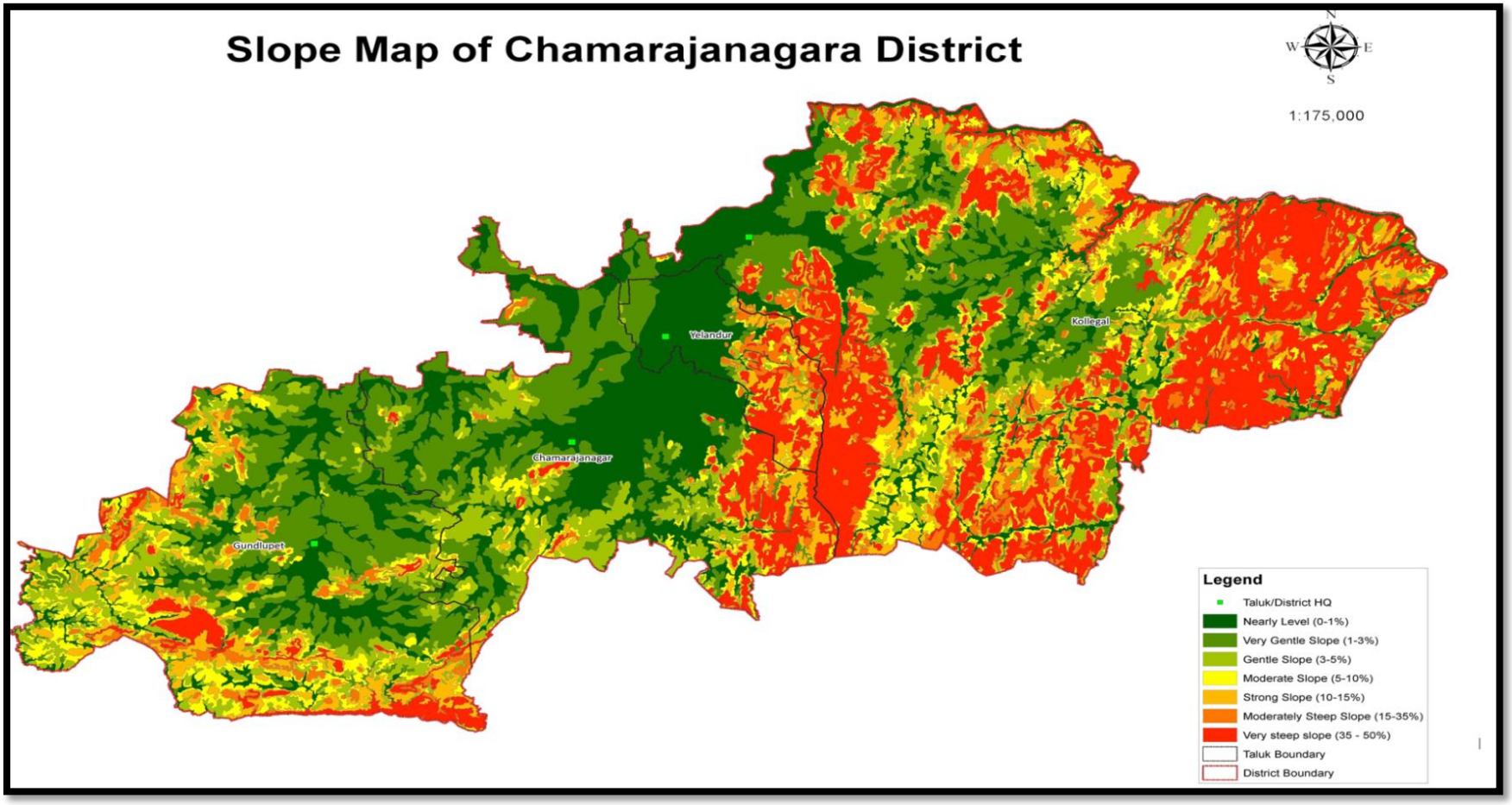
Table: 1.5.3. Soil Depth Classes.

Sl No	Traditional Soil	Area in ha.				Total
		Chamarajanagar	Gundlupet	Kollegala	Yelandur	
1	Very shallow (10-25cm)	3231.45	7012.96	10251.54	-	20495.95
2	Sallow (25-50cm)	10581.75	-	33760.44	-	44342.20
3	Moderate shallow (50-75cm)	30033.54	21605.45	120374.81	10588.79	182602.59
4	Moderate deep (75-100cm)	5679.14	34993.25	12176.62	2676.88	55525.90
5	Deep (>100cm)	66332.01	60175.43	53676.38	13438.39	193622.21
6	Rock land	4819.56	12586.20	45387.68	-	62793.44
7	Water bodies	178.81	-	887.16	-	1065.97
	Total Area	**120856.28**	**136373.29**	**276514.64**	**26704.07**	**560448.27**

1.5.4. SOIL SLOPE

Slope is an important parameter for morphometric studies. The slope gradient directly influences the formation of drainage networks. The slope elements, in turn, are controlled by the climatomorphogenic processes in areas having rock of varying resistance. An understanding of slope distribution is essential. Slope map provides data for planning, settlement, mechanization of agriculture, deforestation, planning of engineering structures, Soil conservationpractices etc. The degree of slope in the district varies from 0 to >30%. There is a higher slope gradient in the eastern and western part of the District. The presence of hilly hillocks and Western Ghats is responsible for the high gradient. The consequences of higher slope degree resulted in rapid runoff and increased erosion rates with low recharge potential.

A slope map shows the variation in degrees of land slope. Runoff will run faster with the increase in land slope, so the intensity of soil erosion will be higher with the increment of gradient, if other conditions remains same. Therefore slope maps can be regarded as referential indices to determine the intensity of soil erosion and potential destruction of soil. At the same time, it can provide some theoretical basis for the evaluation of soil grades and suitability of different proportions of land to agriculture, forestry, grassland, agro-forestry, horticulture and animal husbandry. Slope map along with the information o soil type and rainfall can also be used for deciding the suitability of engineering structures such as Contour / Graded Bunding, Terracing and trenching for specific fields occurring in the watershed and suitability and design of gully control structures such as Check Dams, Retention wall etc. Hence it is necessary to draw up slope map of the watershed



Map: 1.5.4 Slope Map of Chamarajanagar District

Table: 1.5.4 Soil Slope ofChamarajanagar District

Sl No	Soil slope	Areea in ha.				Total
		Chamarajanagar	Gundlupet	Kollegala	Yelandur	
1	Level to nearly level (0-1%)	7672.74	7185.41	13479.34	2766.91	31104.40
2	Very gently sloping (1-3%)	25128.80	-	2917.10	8492.03	36537.92
3	Gently sloping (3-8%)	41225.66	58491.04	13133.40	2179.45	115029.55
4	Moderatly sloping (8-15%)	5803.49	51097.68	33694.58	-	90595.75
5	Moderatly steeply sloping (15-30%)	33189.10	7012.96	164386.80	10588.79	215177.64
6	Steeply sloping (>30%)	2838.12	-	2628.58	2676.88	8143.59
7	Rock land	4819.56	12586.20	45387.68	-	62793.44
8	Water bodies	178.81	-	887.16	-	1065.97
	TOTAL AREA	**120856.28**	**136373.29**	**276514.64**	**26704.07**	**560448.27**

1.5.5. LAND USE PATTERN

Out of the total geographical area 569901ha, 153438 ha and 191028 ha are under net sown area gross cropped area. While 37590ha is sown more than once.

Table: 1.5.5 (a) Land Use Pattern Abstract

Sl. No	Name of the block	Total Geographical area	Area under Agriculture				Area under Forest	Area under Wasteland	Area under other uses
			Gross Cropped Area (1)	Net Sown Area (2)	Area sown More than once (1-2)	Cropping Intensity (%)			
1	Chamarajanagar	123078	50734	37918	12816	134	26903	12786	15804
2	Gundlupet	140607	67656	54124	13532	125	44859	11372	17037
3	Kollegal	279743	59696	51762	7934	115	193259	16264	1790
4	Yelandur	26473	12942	9634	3308	134	10589	5639	497
	TOTAL	**569901**	**191028**	**153438**	**37590**	**124**	**275610**	**46061**	**35128**

Source: Statistic Department, Chamarajanagar.

Table: 1.5.5(b) Chamarajanagar District – Nine Fold Classification (Hectare)

Sl.No	Particulars	Area In Hectre
1	Forests	275610
2	Uncultivable Waste	21434
3	Land put under Non-Agri Use	24627
4	Cultivable Waste	7637
5	Permanent Pastures & Other grazing lands	22750
6	Miscellaneous Tree Crops	4741
7	Current Fallow	47736
8	Other fallow lands	11928
9	Net area Sown	153438
	Total Geographical Area	**569901**

CHAPTER –II

DISTRICT WATER PROFILE

2.1. AREA WISE, CROP WISE IRRIGATION STATUS:

2.1.1 Crops and Irrigation Practices

The district falls in southern dry agro-climatic zone. Various agricultural and horticultural crops are grown in the district. Among the agricultural crops cereals (Paddy, Ragi, Jowar and Maize), pulses (Greengram, Blackgram, Horsegram and Bengalgram), oil seeds (Groundnut, Sunflower), commercial crops(Sugarcane and Cotton) and vegetables are important. Mango, banana and Coconut are important horticultural crops. Sericulture is a more predominant traditional activity in the district. As per the Agricultural census 2005-06 data, the net sown area is 191838 hect which constitutes 34% of the geographical area of the district. In this, the marginal (< 1 hect) and the small (1-2 hect) land holdings comprise 59% and the semi-medium (2-4 hect) and the medium (4-10 hect) land holdings comprise 38%. Irrigation facility is available in 35% of the Net sown area which constitutes 12% of the district area. Among the different sources of irrigation like canals, tanks, wells and bore wells etc, irrigation by canals covers 19%, tanks 13% and wells and bore wells contribute 68%.

Thus, in irrigated agriculture, thegroundwater contribution is considerably high (68%) compared to the surface water surface water (32%). As per the census records(Fourth census od MI schemes 2006-07), the district has 22307 minor irrigation structures, of which 3158 are dugwells, 22849 tube wells, 166 surface water flow schemes and 6 lift irrigation schemes. (Source Central ground water Board report 2012)

Table: 2.1.1.Abstract of Area Wise, Crop Wise Irrigation Status

Crop Type	Kharif (Area in ha)			Rabi (Area in ha)			Summer crop (Area in ha)			Total (Area in ha)		
	Irr	Rain	Total	Irr	Rain	Total	Irr	Rain	Total	Irr	Rain	Total
Cereals	28240	52760	81000	1850	900	2750	1435	0	1435	31525	53660	85185
Pulses	440	15295	15735	0	20740	20740	0	0	0	440	36030	36470
Oil seeds	430	22460	22890	0	50	50	115	0	115	545	22510	23055
Fibre	120	13580	13700	0	0	0	0	0	0	120	13580	13700
Sugarcane	5090	0	5090	920	0	920	1530	0	1530	7540	0	7540
Fruits	10198	0	10198	2834	0	2834	406	0	406	13438	0	13438
Vegetables	12351	0	12351	2496	0	2496	974	0	974	15821	0	15821
Plantation Crops	12514	0	12514	0	0	0	0	0	0	12514	0	12514
Spice crops	9690	0	9690	0	0	0	0	0	0	9690	0	9690
Flower crops	1546.50	0	1546.50	0	0	0	0	0	0	1546.5	0	15465
Medicinal and Aromatic crops	125	0	125	0	0	0	0	0	0	125	0	125
Mulberry	0	0	0	0	0	0	0	0	0	1006.26	0	1006.26
TOTAL	**80744.5**	**104095**	**184839.5**	**8100**	**21690**	**29790**	**4460**	**0**	**4460**	**94310.76**	**125780**	**234009.26**

Note: -Irr-Irrigated, RF-Rainfed

At present only 55684 ha (34%) Area is being irrigated and remaining 105770 ha (66 %) is being covered under rainfed. The averageCropping intensity in the district is 124% of net area sown. So there is need to take more efforts to bring maximum rainfed area under irrigation, with the help of recharging ground water level through various water harvesting structures and by taking soil water conservation measures and providing improved water distribution system through construction of lined canals and micro irrigation system.

Table No. 2.1.2. Area wise cropwise Irrigation Status of Agriculture Crops (All 3 Seasons)

Total Season																					
Taluk Name	Cereals			Coarse Cereals			Pulses			Oilseeds			Cotton			Sugarcane			Total		
	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total
Chamarajanagar	2300	0	2300	1460	12600	14060	0	14220	14220	130	4100	4230	20	1180	1200	2100	0	2100	6010	32100	38110
Gundlupet	0	0	0	1515	14540	16055	40	12760	12800	300	16700	17000	100	9800	9900	710	0	710	2665	53800	56465
Kollegal	8150	0	8150	12350	25200	37550	400	5630	6030	115	1640	1755	0	2600	2600	2030	0	2030	23045	35070	58115
Yelandur	4500	0	4500	1250	1320	2570	0	3420	3420	0	70	70	0	0	0	2700	0	2700	8450	4810	13260
TOTAL	**14950**	**0**	**14950**	**16575**	**53660**	**70235**	**440**	**36030**	**36470**	**545**	**22510**	**23055**	**120**	**13580**	**13700**	**7540**	**0**	**7540**	**40170**	**125780**	**165950**

Table No. 2.1.3. Taluk wise crop wise Irrigation Status of Agriculture Crops – Kharif Season

Taluk Name	Cereals			Coarse Cereals			Pulses		
	IR	RF	Total	IR	RF	Total	IR	RF	Total
1	2	3	4	5	6	7	8	9	10
Chamarajanagar	2000	0	2000	1350	12000	13350	0	6150	6150
Gundlupet	0	0	0	1250	14240	15490	40	1680	1720
Kollegal	8000	0	8000	10250	25200	35450	400	4080	4480
Yelandur	4500	0	4500	890	1320	2210	0	3380	3380
Total	**14500**	**0**	**14500**	**13740**	**52760**	**66500**	**440**	**15290**	**15730**

Taluk Name	Oilseeds			Cotton			Sugarcane			Total		
	IR	RF	Total	IR	RF	Total	IR	RF	Total	IR	RF	Total
1	11	12	13	14	15	16	17	18	19	20	21	22
Chamarajanagar	130	4050	4180	20	1180	1200	1600	0	1600	5100	23380	28480
Gundlupet	300	16700	17000	100	9800	9900	490	0	490	2180	42420	44600
Kollegal	0	1640	1640	0	2600	2600	1400	0	1400	20050	33520	53570
Yelandur	0	70	70	0	0	0	1600	0	1600	6990	4770	11760
Total	**430**	**22460**	**22890**	**120**	**13580**	**13700**	**5090**	**0**	**5090**	**34320**	**104090**	**138410**

Note: -Irr-Irrigated, RF-Rainfed

Table No. 2.1.4. Taluk wise crop wise Irrigation Status of Agriculture Crops – Rabi Season

Taluk Name	Cereals			Coarse Cereals			Pulses		
	IR	RF	Total	IR	RF	Total	IR	RF	Total
1	2	3	4	5	6	7	8	9	10
Chamarajanagar	0	0	0	0	600	600	0	8070	8070
Gundlupet	0	0	0	200	300	500	0	11080	11080
Kollegal	0	0	0	1600	0	1600	0	1550	1550
Yelandur	0	0	0	50	0	50	0	40	40
Total	**0**	**0**	**0**	**1850**	**900**	**2750**	**0**	**20740**	**20740**

Taluk Name	Oilseeds			Cotton			Sugarcane			Total		
	IR	RF	Total	IR	RF	Total	IR	RF	Total	IR	RF	Total
1	11	12	13	14	15	16	17	18	19	20	21	22
Chamarajanagar	0	50	50	0	0	0	100	0	100	100	8720	8820
Gundlupet	0	0	0	0	0	0	160	0	160	360	11380	11740
Kollegal	0	0	0	0	0	0	160	0	160	1760	1550	3310
Yelandur	0	0	0	0	0	0	500	0	500	550	40	590
Total	**0**	**50**	**50**	**0**	**0**	**0**	**920**	**0**	**920**	**2770**	**21690**	**24460**

Note: -Irr-Irrigated, RF-Rainfed

Table No. 2.1.5. Taluk wise crop wise Irrigation Status of Agriculture Crops - Summer Season

Taluk Name	Cereals			Coarse Cereals			Pulses		
	IR	RF	Total	IR	RF	Total	IR	RF	Total
1	2	3	4	5	6	7	8	9	10
Chamarajanagar	300	0	300	110	0	110	0	0	0
Gundlupet	0	0	0	65	0	65	0	0	0
Kollegal	150	0	150	500	0	500	0	0	0
Yelandur	0	0	0	310	0	310	0	0	0
Total	**450**	**0**	**450**	**985**	**0**	**985**	**0**	**0**	**0**

Taluk Name	Oilseeds			Cotton			Sugarcane			Total		
	IR	RF	Total	IR	RF	Total	IR	RF	Total	IR	RF	Total
1	11	12	13	14	15	16	17	18	19	20	21	22
Chamarajanagar	0	0	0	0	0	0	400	0	400	810	0	810
Gundlupet	0	0	0	0	0	0	60	0	60	125	0	125
Kollegal	115	0	115	0	0	0	470	0	470	1235	0	1235
Yelandur	0	0	0	0	0	0	600	0	600	910	0	910
Total	**115**	**0**	**115**	**0**	**0**	**0**	**1530**	**0**	**1530**	**3080**	**0**	**3080**

Note: -Irr-Irrigated, RF-Rainfed

2.2. PRODUCTION AND PRODUCTIVITY OF MAJOR CROPS

The season wise crop sown, production and productivity details and cost of cultivation (Block-wise) were given in the below tables. These details are mandatorily required to quantify the water requirement season wise with reference to availability of surface water and ground water. In Chamarajanagar district, major cropping area of the district depends on rainfall. In addition, the farmers get canal water for a period of 60-90 days in canal command areas of Kollegala, Yelandur and Chamarajanagar taluks. In the remaining period, the farmers have to depend on rainfall and ground water for their agricultural operations.

Table: 2.2.1. Production and Productivity of Major Agriculture Crops

Season	Crop	Rainfed				Irrigated				Total		
		Area (Ha)	Production (Mt/yr)	Productivity or Yield (kg/Ha)	Cost of Cultivation (Rs/ha)	Area (Ha)	Production (Mt/yr)	Productivity or Yield (kg/Ha)	Cost of Cultivation (Rs/ha)	Area (Ha)	Production (Mt/yr)	Productivity or Yield (kg/Ha)
Kharif	Rice	0	0	0	0	14500	71500	4931	56875	14500	71500	4931
	Jowar -Local	10000	5640	564	7500	0	0	0	0	10000	5640	564
	Jowar - Hybrid	2300	2790	1213	37705	350	780	2229	43475	2650	3570	1347
	Ragi	13630	25584	1877	37143	3450	8500	2464	43943	17080	34084	1996
	Maize	26490	226873	8564	43500	9690	54421	5616	51575	36180	281294	7775
	Bajra	340	170	500	14280	250	225	900	15280	590	395	669
	Minor Millets	0	0	0	0	0	0	0	0	0	0	0
	Total Cereals	**52760**	**261057**	**4948**		**28240**	**135426**	**4796**		**81000**	**396483**	**4895**
	Redgram	670	576	860	36425	110	110	1000	36425	780	686	879
	Horsegram	880	591	672	7500	0	0	0	0	880	591	672
	Blackgram	5500	4315	785	32675	0	0	0	0	5500	4315	785
	Greengram	4620	3461	749	28565	0	0	0	0	4620	3461	749
	Cowpea	2750	2592	943	31675	0	0	0	0	2750	2592	943
	Field Bean	870	695	799	8000	330	300	909	10000	1200	995	829
	Total Pulses	**15290**	**10932**	**715**		**440**	**410**	**932**		**15730**	**11302**	**718**
	Groundnut	12370	11787	953	55275	30	39	1300	64325	12400	11826	954
	Sesamun	780	322	413	6500	0	0	0	0	780	322	413
	Sunflower	8670	5529	638	44775	400	445	1112.5	60500	9070	5974	659
	Castor	470	327	696	5000	0	0	0	0	470	327	696
	Niger	170	55	324	4000	0	0	0	0	170	55	324
	Total Oilseeds	**22460**	**18020**	**802**		**430**	**484**	**1126**		**22890**	**18504**	**808**
	Cotton	13580	10935	805	63075	120	146	1217	65075	13700	11081	809
	Sugarcane	0	0	0	0	5090	544000	106876	113000	5090	544000	106876
	Grand Total	**104090**				**34320**				**138410**		

Continued.....

Season	Crop	Rainfed				Irrigated				Total		
		Area (Ha)	Production (Mt/yr)	Productivity or Yield (kg/Ha)	Cost of Cultivation(Rs/ha)	Area (Ha)	Production (Mt/yr)	Productivity or Yield (kg/Ha)	Cost of Cultivation(Rs/ha)	Area (Ha)	Production (Mt/yr)	Productivity or Yield (kg/Ha)
Rabi	Rice	0	0	0	0	0	0	0	0	0	0	0
	Jowar	0	0	0	0	0	0	0	0	0	0	0
	Ragi	380	504	1326	74286	160	311	1943.75	131829	540	815	1509
	Maize	520	1470	2827	87000	1690	9730	5757.3965	154725	2210	11200	5068
	Total Cereals	**900**	**1974**	**2193**	**0**	**1850**	**10041**	**5428**	**95518**	**2750**	**12015**	**4369**
	Bengalgram	3990	4032	1011	121100	0	0	0	0	3990	4032	1011
	Horsegram	14200	9920	699	22500	0	0	0	0	14200	9920	699
	Blackgram	60	39	650	32675	0	0	0	0	60	39	650
	Greengram	160	96	600	28565	0	0	0	0	160	96	600
	Cowpea	1460	1322	905	63350	0	0	0	0	1460	1322	905
	Field Bean	870	573	659	16000	0	0	0	0	870	573	659
	Total Pulses	**20740**	**15982**	**771**	**30275**	**0**	**0**	**0**	**0**	**20740**	**15982**	**771**
	Niger	50	13	260	4000	0	1	0	3	50	14	280
	Total Oilseeds	**50**	**13**	**260**	**0**	**0**	**0**	**0**	**0**	**50**	**13**	**260**
	Sugarcane	0	0	0	0	920	87500	95109	452000	920	87500	95109
	Grand Total	**21690**				**2770**				**24460**		
Summer	Rice	0	0	0	0	450	2190	4867	56875	450	2190	4867
	Jowar	0	0	0	0	0	0	0	0	0	0	0
	Ragi	0	0	0	0	325	837	2575	168972	325	837	2575
	Maize	0	0	0	0	660	1368	2073	198225	660	1368	2073
	Total Cereals	**0**	**0**	**0**	**0**	**1435**	**4395**	**3063**	**95518**	**1435**	**4395**	**3063**
	Groundnut	0	0	0	0	30	30	1000	64325	30	30	1000
	Sunflower	0	0	0	0	85	64	753	60500	85	64	753
	Total Oilseeds	**0**	**0**	**0**	**0**	**115**	**94**	**817**	**0**	**115**	**94**	**817**
	Sugarcane	0	0	0	0	1530	154750	101144	339000	1530	154750	101144
	Grand Total	**0**	**0**	**0**	**0**	**3080**	**0**	**0**	**0**	**3080**	**0**	**0**

Table: 2.2.2. Production and Productivity of Major Horticulture Crops

Sl No	Crops	Area (ha)	Productivity (t/ha)	Production (MT)	Cost of cultivation/ha (Amount in Lakhs)
1	Banana	8098	25.00	202450	1.120
2	Turmeric	7030	3.97	27909	0.950
3	Coconut	8438	0.10 lakh nuts	843.80 lakh nuts	0.600
4	Onion	4542	11.77	53459	0.850
5	Tomato	2944	24.33	76275	0.850
6	Beans	1030	10.55	10866	0.450
7	Watermelon	980	30.86	30242	1.125
8	Mango	756	9.43	7129	0.360
9	Chilli	674	14.00	9436	0.750
10	Sapota	450	8.94	4023	0.360
11	Brinjal	419	31.54	13215	0.750
12	Cabbage	312	19.79	6175	0.700
13	Papaya	298	79.39	23658	1.000
14	Beetroot	220	15.89	3496	0.450
15	Pomegranate	172	11.48	1974	0.750

Table 2.2.3. Production and Productivity of Sericulture

Taluk	Rainfed				Irrigated			
	Area (ha)	Production (Qt/Yr/MT)	Productivity (Kg/ha)	Cost of Cultivation (Rs./ ha)	Area (Ha)	Production (Qt/Yr /MT)	Productivity (Kg/ha)	Cost of Cultivation (Rs./ ha)
1	2	3	4	5	6	7	8	9
Chamarajanagara	160.20	72.09	450	40000	360.01	585.0	1625	170600
Gundlupet	26.12	11.75	450	40000	57.85	94.0	1625	170600
Kollegala	-	-	-	-	313.76	510.0	1625	170600
Yalandur	3.15	1.42	450	40000	85.17	138.0	1625	170600
Total	**189.47**	**85.26**	**450**	**40000**	**816.79**	**1327.00**	**1625**	**170600**

Taluk	Total			
	Area (ha)	Production (Qt/Yr /MT)	Productivity (Kg/ha)	Cost of Cultivation (Rs./ ha)
1	10	11	12	13
Chamarajanagara	520.21	657.09	1263	130000
Gundlupet	83.97	105.75	1259	129900
Kollegala	313.76	510.00	1625	170600
Yalandur	88.32	139.42	1578	165900
Total	**1006.3**	**1412.26**	**1403**	**146000**

2.3. IRRIGATION BASED CROP CLASSIFICATION

The details of gross and net area irrigation for Chamarajanagar district is tabulated below.

Table: 2.3.1. Irrigation Based Crop Classification

Sl. No	Name of the Block	Irrigated (Area in ha)		Rain fed (Area in ha)	
		Gross Irrigated Area	Net Irrigated Area	Partially Irrigated/Protective Irrigation	Un-Irrigated or Totally Rain fed
1	Chamarajanagar	15241	10920	-	35493
2	Gundlupet	14182	12100	-	53474
3	Kollegal	23217	22410	-	36479
4	Yelandur	10211	10092	-	2731
	Total	**62851**	**55522**	**-**	**128177**

Source: District at a glance, 2014-15, Chamarajanagar

CHAPTER –III

WATER AVAILABILITY

3.1. Status of surface water availability:

In chamrajanagar district Kabini Right bank canal, Suvarnavathi Reservoir projects, Chikkahole Reservoir Project, Nalluru-Amanikere Reservoir project, Gundal Reservior Project, Uduthorehalla Reservior Project are the major 6 projects totally contributes near about 39545.36 ha area under surface irrigation. Total surface water storage capacity of these tanks is 0.28615 BMC. Major Commond area comes in Chamrajanagar, Kollegala and Yalandur taluks. All these projects have been completed between 1980 and 1990.

Minor Irrigation Department is maintaining independent catchment tanks with an atchkut area of morethan 40ha. In the district they maintain 64 small tanks, 13 Pickups and 4 Lift Irrigation Schemes with a designed atchkut area of 15668.11 ha spread over 244 villages. Total water storage capacity of these tanks is 0.05502 BCM.Panchayathraj Engineering Department is maintaining 89 Small Tanks having atchkut less than 40 hectare. These tanks can store surface water of 0.010588 BMC.

Table 3.1: SeasonWise Status of Water Availability **BCM**

Sl.No	Sources	Kharif	Rabi	Summer	Total
1	Surface Irrigation				
(i)	Canal (Major & Medium Irrigation)	0.18221	0.13153	0	0.31374
(ii)	Minor Irrigation tanks (>40ha atchkat area)	0.05502	0	0	0.05502
(iii)	PRED Tanks (<40ha atchkat area)	0.01059	0	0	0.01059
(iv)	Lift Irrigation/ Diversion	0	0	0	0
(v)	Various Water Bodies including Rain Water Harvesting	0.0008	0	0	0.0008
(vi)	Treated Effluent Received from STP	0	0	0	0
(vii)	Untreated Effluent	0	0	0	0
(viii)	Perennial sources of Water	0	0	0	0
2	Ground Water	0	0	0	0.34187
(i)	Open Well	-	-	-	-
(ii)	Deep Tube Well	-	-	-	-
(iii)	Medium Tube Well	-	-	-	-
	Grand Total	**0.24862**	**0.13153**	**0**	**0.72202**

Source: Department of Kabini Canal Division, Minor Irrigation, PRED, CGWB District Ground Water Brochure Chamrajanagar District 2012for GW details

3.2. Status of Ground Water Availability:

As Per the central ground water Board report Dynamic Ground Water Resource of Chamarajanagar district is estimated taluk wise as on 31st March 2009. The Net annual ground water availability in the district is 0.34187 BCM and the Gross ground water draft for all uses is 0.24558 BCM. Allocation for domestic and industrial use for next 25 years is 0.02926 BCM. The Ground water availability for future irrigation development is 0.12740 BCM. The average Stage of Groundwater Development of the district is 72%. Taluk wise data viz. net ground water availability, existing ground water draft for irrigation, existing gross groundwater draft for domestic and industrial water supply, allocation for domestic and industrial use for next 25 years, net ground water availability for future irrigation development, categorization etc, are shown in the below table.

Existing gross annual ground water draft in the district is 71%. The stage of ground water draft is highest in Gundlupete taluk (134%) and lowest in Kollegala taluk(46%). Moderate darft has taken place in Chamrajanagar (61%) and Yalandur (69%) taluks.

In future this gap (Recharge and Draft) may rise due to high exploitation of ground water. For fulfillment of Crop water demand as well as domestic use of water, the care is taken through the district irrigation plan to overcome the future water problem for various sectors in the district.

Table 3.2. Status of Ground Water Availabilty

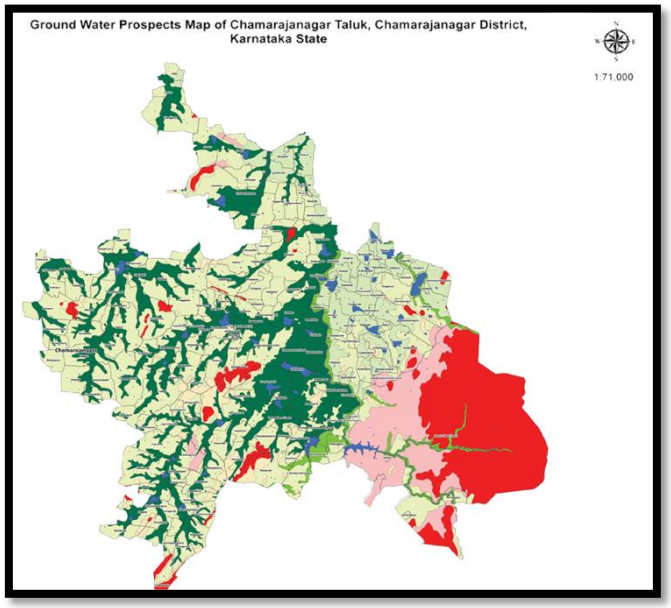
Sl.No	TALUK	Status of Block as per Centeral Ground Water Board Notification			Ground Water (BCM)		
		Critical (%)	Semi-Critical (%)	Safe (%)	Draft	Recharge	Gap
1	Chamarajanagar	-	3	97	0.06651	0.0405711	**0.0259389**
2	Gundlupet	-	25	50	0.10092	0.1352328	**-0.0343128**
3	Kollegala	-	-	65	0.06174	0.0284004	**0.0333396**
4	Yelandur	-	-	100	0.01641	0.0113229	**0.0050871**
Total		**-**	**-**	**-**	**0.24558**	**0.2155272**	**0.0300528**

Source: CGWB information booklet, Chamrajanagar district 2012

TALUK WISE STATUS OF WATER

3.2.1. Chamarajanagar taluk

Area of the Chamarajanagar taluk is 1226.67 sq.km. The area is underlain by hard, gneiss and charnockites. About 22% of the area of the taluk is covered by forest. Net sown area is 58735 hect constituting about 48% of the total area. The Net Irrigated area is 37% of the Net sown area. Groundwater is the major source of irrigation contributing nearly 80%. Canal irrigation from KRS project (Cauvery River) covers about 13% of the irrigated area. Groundwater is the main source of drinking water in major part of the taluk and surface water supplements the drinking water needs in the canal coverage area. There are 9720 irrigation bore wells and 175 irrigation dug wells.



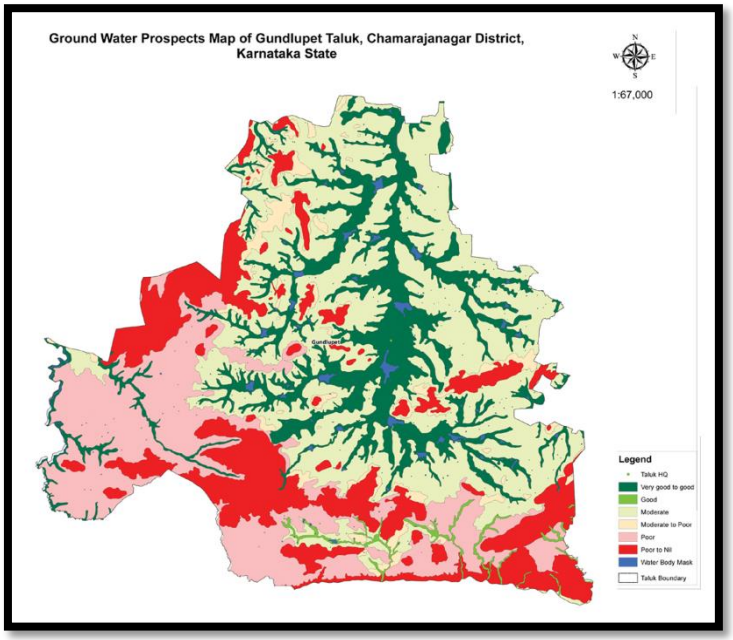
Map: 3.2.1(a)

Sprinkler and Drip irrigation methods are being increasingly adopted to manage the water resources in agriculture sector.

The stage of ground water development 61% as against the district average of 72%. Thus, 97% of the area in the taluk is under **Safe** category and **the** remaining 3% area is under **Semi-Critical** category**.** Shallow zone ground water can be developed for irrigation through dugwells in topographic lows and through shallow/deep bore wells in the other areas. Under second phase of groundwater exploration programme 9 bore wells (6 exploratory wells & 3 Observation wells)borewells drilled which range in depth from 104m to 201 m. Potential fractured aquifers are encountered between 18 m and 165m depth with yields of less than 1 lps to 6.12 lps. Scientifically selected bore well sites in the taluk can help the farmers in getting a good yield.

3.2.2. Gundlupet Taluk

Area of the Gundlupet taluk is 1392.88 sq.km. The area is underlain by hard, gneiss formation. About 32 % of the area of the taluk is covered by forest. Net sown area is 57440 hectares constituting about 41 % of the total area. The Net Irrigated area is 17.6% of the Net sown area. There is one medium surface water irrigation facility in the taluk but majority groundwater is the sole source for the domestic and irrigation sectors.



Map: 3.2.2(a)

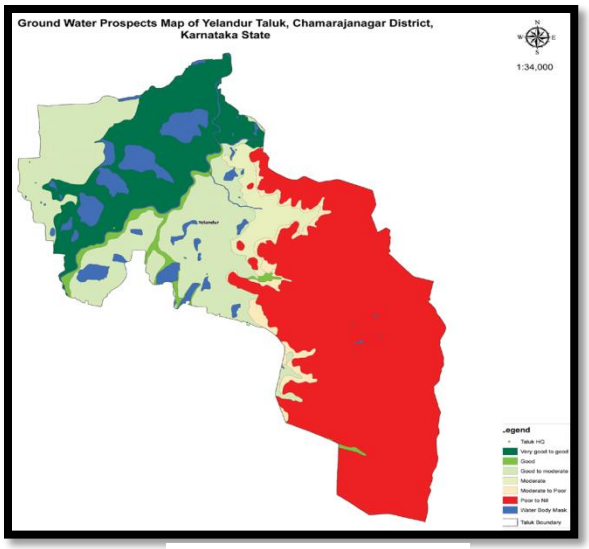
Groundwater for irrigation in agriculture sector is developed through 7275 bore wells and 75 dug wells. The ground water thus developed are utilized for irrigation by adopting different efficient water use irrigation practices such as sprinklers irrigations and drip irrigations.

The stage of ground water development in Gundlupet taluk is the highest in the district. A high development of 134 % has resulted in the desaturation of phreatic zone keeping no scope for further development of the resource.

The pace of development is not uniform throughout the taluk. Though the overall stage of groundwater development is high, only 25% of the taluk area is under **Overexploited** category and 25% is under **Semi-critica**land the remaining 25% under **Safe**category.

However, further ground water development can be done through by developing deeper aquifers. Under second phase of groundwater exploration programme 10 bore wells (8 exploratory wells & 2 Observation wells) have been drilled which range in depth from 103 m to 153.5 m. Potential fractured aquifers are encountered between 36 m and 151 m depth with yields of less than 1 lps to 10 lps. Scientifically selected bore well sites in the taluk can help the farmers in getting a good yield.

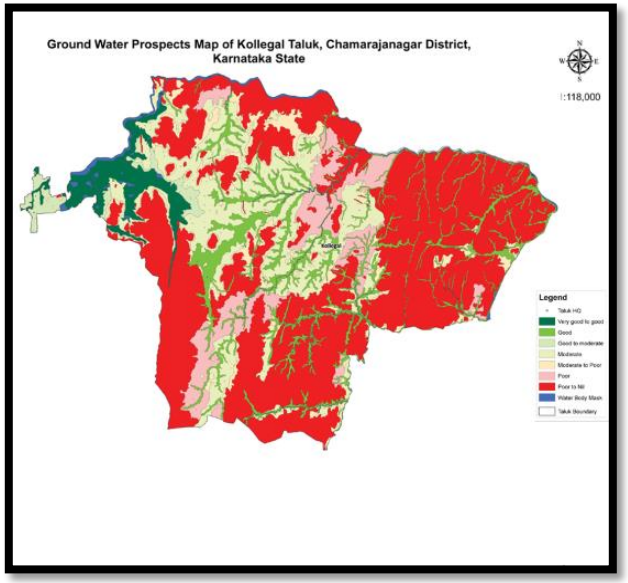
3.2.3. Yelandur Taluk



Map: 3.2.3(a)

Yelandur taluk is the smallest taluk in Chamarajanagar district with an area of 266.34 sq.km. The area is underlain by hard, gneiss and charnockite formations. About 40 % of the area of the taluk is covered by forest. Net sown area is 9471 ha constituting about 36 % of the total area. The entire net sown area is under irrigation. Canal irrigation from KRS project (Cauvery River) covers about 39 % of the irrigated area and nearly an equal area (36%) is under ground water irrigation. The remaining area is irrigated by MI tanks and other sources. Groundwater for irrigation in agriculture sector is developed through 1221bore wells and 338 dug wells. Groundwater development is low as canal water is made available for irrigation. The ground water thus developed are utilized for irrigation by adopting different efficient water use irrigation practices such as sprinklers irrigations and drip irrigations. The stage of ground water development in Yalandur taluk is 69% which is a little lesser than the district average of 72 %. The entire taluk area is under **Safe** category indicating a further scope for the development of dynamic groundwater resource.

3.2.4. Kollegal Taluk



Map: 3.2.4(a)

Kollegal is the largest taluk in Chamarajanagar district with an area of 2785.82 sq.km. The area is underlaid by hard, charnockite and gneiss formations. The taluk is almost hilly with a forest cover spread over about 69 % of the area. Net sown area is 66192 ha constituting about 24 % of the total area.

The Net Irrigated area is 39 % of the Net sown area. Groundwater is the major source of irrigation (54%) followed by Canal irrigation (24%) from KRS project (Cauvery river). Groundwater for irrigation in agriculture sector is developed through 4632 bore wells and 2570 dug wells. Groundwater development is low as canal water is made available for irrigation. The ground water thus developed are utilized for irrigation by adopting different efficient water use irrigation practices such as sprinklers irrigations and drip irrigations. For irrigation, dug wells are common abstraction structures in canal command areas of the taluk which are supplementing irrigation during water shortage during summer months. As the major part of the taluk is hilly and covered by forest, groundwater development is low. There is enough scope for further ground water development in the taluk.

The stage of ground water development in Kollegal taluk is 46% which is the least in the district. But, the groundwater development is not uniform in the taluk and therefore, some areas have witnessed a very high development and are classified as Over- exploited. Accordingly, 65% of the area falling in the northern part is under **Safe** category and the remaining 35% area in the southern part is classified as **Over-exploited**. There is further scope for developing dynamic groundwater resource in the northern (**Safe** category) part of the taluk. Under second phase of groundwater exploration programme 13 bore wells (10 exploratory wells & 3 Observation wells) have been drilled which range in depth from 104 m to 201 m. Potential fractured aquifers are encountered between 18 m and 165m depth with yields of less than 1 lps to 6.12 lps. Scientifically selected bore well sites in the taluk can help the farmers in getting a good yield.

3.3. Status of Command Area:

The total gross area under canal command is 41489.42 ha in the district out of this 39545.36 ha is under net irrigation. The majority of canal command area lies in Kollegala and Yelandur taluks spreading over 88 villages. Part of the area is spread over other two taluks like Chamarajanagara and Gundlupete taluks. The command area gets irrigation once in a year from Kabini, Suvarnavathi, Chikkahole, Gundal and Nalluru Amanikere dams and thirumoorthy dam for a period of 35 to 45 days (3 to 4 irrigation) based on the water availability in the dam.

NAME OF THE DIVISION:CNNL, KABINI CANAL DIVISION, NANJANGUD

Table 3.3.(a) Status of Command Area

Sl. No	Project and Taluk	Name of the Village	Information of Canal Command			Information on the other Service Command			Total area	
			Total	Developed Area	Un – Developed Area	Total	Developed Area	Un – Developed Area	Developed Area	Un – Developed Area
I	Chamarajanagara Taluk – Suvaranavathy Reservior Project (LBC, RBC & River Channels)									
1	LBC	Attigulipura	32.61	32.61	0.00	0.00	0.00	0.00	32.61	0.00
2		Palace Kavalu	111.32	111.32	0.00	0.00	0.00	0.00	111.32	0.00
3		H.D.forest	17.95	17.95	0.00	0.00	0.00	0.00	17.95	0.00
4	RBC	H.D.forest	613.11	613.11	0.00	0.00	0.00	0.00	613.11	0.00
5		Devarajapura	87.19	87.19	0.00	0.00	0.00	0.00	87.19	0.00
6		Badamudlu	96.07	96.07	0.00	0.00	0.00	0.00	96.07	0.00
7		Hebbasur	675.03	675.03	0.00	0.00	0.00	0.00	675.03	0.00
8		Ayanapura	156.50	156.50	0.00	0.00	0.00	0.00	156.50	0.00
9		Malledevanahalli	205.53	205.53	0.00	0.00	0.00	0.00	205.53	0.00
10		Puttanapura	273.69	273.69	0.00	0.00	0.00	0.00	273.69	0.00
11		Kukkanahalli	159.61	159.61	0.00	0.00	0.00	0.00	159.61	0.00
12		Nagavalli	40.92	40.92	0.00	0.00	0.00	0.00	40.92	0.00
13		Hachitalapura	49.97	49.97	0.00	0.00	0.00	0.00	49.97	0.00
14		Vagarapura	15.22	15.22	0.00	0.00	0.00	0.00	15.22	0.00
15		Chandakavadi	20.99	20.99	0.00	0.00	0.00	0.00	20.99	0.00
16		Hondarabalu	267.35	267.35	0.00	0.00	0.00	0.00	267.35	0.00
17		Nallur	9.80	9.80	0.00	0.00	0.00	0.00	9.80	0.00

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18	River Channel	Chanadakavadi	38.96	38.96	0.00	0.00	0.00	0.00	38.96	0.00
19		Hebbsur	25.74	25.74	0.00	0.00	0.00	0.00	25.74	0.00
20		Sargur	111.12	111.12	0.00	0.00	0.00	0.00	111.12	0.00
21		Kudlur	91.51	91.51	0.00	0.00	0.00	0.00	91.51	0.00
22		Budititu	159.60	159.60	0.00	0.00	0.00	0.00	159.60	0.00
23		Hosahally	96.47	96.47	0.00	0.00	0.00	0.00	96.47	0.00
24		Kodimole	86.28	86.28	0.00	0.00	0.00	0.00	86.28	0.00
25		Kunnegala	26.30	26.30	0.00	0.00	0.00	0.00	26.30	0.00
26		Alur	129.17	129.17	0.00	0.00	0.00	0.00	129.17	0.00
27		Dollipura	133.35	133.35	0.00	0.00	0.00	0.00	133.35	0.00
28		Badamudlu	158.93	158.93	0.00	0.00	0.00	0.00	158.93	0.00
29		Homma	219.06	219.06	0.00	0.00	0.00	0.00	219.06	0.00
30		Karadahalli	52.45	52.45	0.00	0.00	0.00	0.00	52.45	0.00
II	**Chamarajanagara Taluk – Chikkahole Reservior Project (LBC & Bandigere Channels)**									
1	LBC & Bandigere Channel	Ankanashettypura	73.00	73.00	0.00	0.00	0.00	0.00	73.00	0.00
2		Amachavadi	141.00	141.00	0.00	0.00	0.00	0.00	141.00	0.00
3		Dollipura	4.86	4.86	0.00	0.00	0.00	0.00	4.86	0.00
4		Haradanahally	89.00	89.00	0.00	0.00	0.00	0.00	89.00	0.00
5		Badamudlu	104.50	104.50	0.00	0.00	0.00	0.00	104.50	0.00
6		Bandigere	78.56	78.56	0.00	0.00	0.00	0.00	78.56	0.00
7		Basavapura	662.20	662.20	0.00	0.00	0.00	0.00	662.20	0.00
8		H.D.forest	328.00	328.00	0.00	0.00	0.00	0.00	328.00	0.00
9		Venkatayyana Chatra	131.20	131.20	0.00	0.00	0.00	0.00	131.20	0.00
10		Karadahalli kanekare	37.00	37.00	0.00	0.00	0.00	0.00	37.00	0.00

Tabel 3.3.(b) Status of Command area CNNL- Kollegala division (Area in Hectares)

Sl. No	Project and Taluk	Name of the Village	Distributory No	Information of Canal Command			Information on the other Service Command			Total area	
				Total	Developed Area	Un - Developed Area	Total	Developed Area	Un - Developed Area	Developed Area	Un - Developed Area
I	Kabini Right bank canal (Ch. 150.00 to 200.00 KM)										
1	a)Kollegal	Terambally, Kunthur, Utthambally, Mullur,	42	4812.00	4812.00	0.00	0.00	0.00	0.00	4812.00	0.00
	b)Yelandur	Honnur, Kestur, Yeriyuru Maddur,Katnavadi, Kinkally, Yelandur, Dughatti, Hambale, Mellahally, Kempanapura, Ganiganur, Agara, Mambahally									
2	Yelandur	Yelandur, Gumbahally,Komaranapura,Ganiganur	46	306.00	306.00	0.00	0.00	0.00	0.00	306.00	0.00
3	Yelandur	Komaranapura,Ganiganur,Vadagere, Gowdahally, Maddur,	47	243.00	243.00	0.00	0.00	0.00	0.00	243.00	0.00
4	Yelandur	Maddur, Boodittittu, Gowdahally, Malur, Palya	48	312.00	312.00	0.00	0.00	0.00	0.00	312.00	0.00
5	Yelandur	Malarpalya, Devarahally, Hallikere, Agrahara, Maddur	49	274.00	274.00	0.00	0.00	0.00	0.00	274.00	0.00
6	Yelandur	Shivarahally, Bannisarige,Alkere Agrahara, Devarahally	50	161.00	161.00	0.00	0.00	0.00	0.00	161.00	0.00

Continued….

7	Yelandur	Sivarahally, Bannisarige, Agara, Kunagally,	51	353.00	353.00	0.00	0.00	0.00	0.00	353.00	0.00
8	Yelandur	Doddagahally, Bannisarige	52	184.00	184.00	0.00	0.00	0.00	0.00	184.00	0.00
9	Kollegal	Kunagally,	53	163.00	163.00	0.00	0.00	0.00	0.00	163.00	0.00
10	Kollegal	Mudigunda	54	367.00	367.00	0.00	0.00	0.00	0.00	367.00	0.00
11	Kollegal	Bastipura, Mudigunda, Kollegal,Hampapura, Dasanapura,Linganapura, Agrahara, Siddayanapura, Harale, Thimmarajipura	55	1622.00	1622.00	0.00	0.00	0.00	0.00	1622.00	0.00
12	Kollegal	Linganapura,Siddaiahnapura,Agrahara, Haruvanapura, Hondarabalu, Madhuvanahally	56	1321.00	1321.00	0.00	0.00	0.00	0.00	1321.00	0.00
13	Kollegal	Haruvanapura, Lakshmipura, Doddinduvadi	57	251.00	251.00	0.00	0.00	0.00	0.00	251.00	0.00
14	Kollegal	Doddinduvadi, Chikkinduvadi, Palya	58	123.16	123.16	0.00	0.00	0.00	0.00	123.16	0.00
15	Kollegal	Gundegalam, Palya	59	366.07	366.07	0.00	0.00	0.00	0.00	366.07	0.00
16	Kollegal	Gundegalam, Jinakanahally, Saragur Dhanagere	60	1017.88	1017.88	0.00	0.00	0.00	0.00	1017.88	0.00
17	Kollegal	Saragur, Dhanagere, Uganiya, Sathegala	61	1033.99	1033.99	0.00	0.00	0.00	0.00	1033.99	0.00
18	Kollegal	Uganiya, Sathegala	62	483.00	483.00	0.00	0.00	0.00	0.00	483.00	0.00
19	Kollegal	Sathegala	DPO 1 to 11	750.00	750.00	0.00	0.00	0.00	0.00	750.00	0.00

Source: Executive Engineer, CNNL, No.2, KC Division, Kollegal

Tabel 3.3. (c) Status of Command area CNNL- Santhemarallisub-division (Area in Hectares)

Sl. No	Project and Taluk	Name of the Village	Information of Canal Command			Information on the other Service Command			Total area	
			Total	Developed Area	Un - Developed Area	Total	Developed Area	Un - Developed Area	Developed Area	Un - Developed Area
1	**Kabini Right Bank Canal (Kabini Project)**									
	Ch.Nagara Tq									
1	D-43	Kempanapura	228.05	228.05	0.00	0.00	0.00	0.00	228.05	0.00
2	D-44	Irasavadi	207.05	207.05	0.00	0.00	0.00	0.00	207.05	0.00
3	D-45	Suthur	125.29	125.29	0.00	0.00	0.00	0.00	125.29	0.00
		Total of ch.nagar tq	**560.39**	**560.39**	**0.00**	**0.00**	**0.00**	**0.00**	**560.39**	**0.00**
	Yelandur Tq									
4	D-43	Duyam Kandahalli	70.28	70.28	0.00	0.00	0.00	0.00	70.28	0.00
5		Ambale	96.01	96.01	0.00	0.00	0.00	0.00	96.01	0.00
6		Mellahalli	41.24	41.24	0.00	0.00	0.00	0.00	41.24	0.00
7		Avalkandahalli	109.03	109.03	0.00	0.00	0.00	0.00	109.03	0.00
8		Duggahatti	112.02	112.02	0.00	0.00	0.00	0.00	112.02	0.00
		D-43 Total	**428.58**	**428.58**	**0.00**	**0.00**	**0.00**	**0.00**	**428.58**	**0.00**
9	D-44	Ambale	788.39	788.39	0.00	0.00	0.00	0.00	788.39	0.00
10		Uppinamole	327.08	327.08	0.00	0.00	0.00	0.00	327.08	0.00
11		Yeriyur	73.36	73.36	0.00	0.00	0.00	0.00	73.36	0.00
12		Y.K.Mole	57.27	57.27	0.00	0.00	0.00	0.00	57.27	0.00
		Yelandur	61.19	61.19	0.00	0.00	0.00	0.00	61.19	0.00
13		Gumballi	107.17	107.17	0.00	0.00	0.00	0.00	107.17	0.00
		D-44 total	**1414.46**	**1414.46**	**0.00**	**0.00**	**0.00**	**0.00**	**1414.46**	**0.00**
14	D-45	Yeragamballi	117.36	117.36	0.00	0.00	0.00	0.00	117.36	0.00
15		Gumballi	319.23	319.23	0.00	0.00	0.00	0.00	319.23	0.00
		D-45 total	**436.59**	**436.59**	**0.00**	**0.00**	**0.00**	**0.00**	**436.59**	**0.00**
		Yelandur Tq total	**2279.63**	**2279.63**	**0.00**	**0.00**	**0.00**	**0.00**	**2279.63**	**0.00**
		Grand total	**2840.02**	**2840.02**	**0.00**	**0.00**	**0.00**	**0.00**	**2840.02**	**0.00**

Table 3.4. Existing Source Of Irrigation In Chamarajanagar District (Area in Ha)

Sl No	Name of the block	Name of the Project	Surface Irrigation					Ground Water						Other sources including Traditional WHS	Treated effluent discharged from STP	Water extraction devices / Lift			Total	
			Canal Based		Tanks / Ponds / Reservoirs			Tube wells		Open wells		Bore wells							Irrigation sources (1+2+3)	Water extracting units
			Govt. Canals	Community / Pvt.Canals	Community Ponds including small	Individual / Pvt. Ponds	Govt. Reservior /Dams	Govt.	Pvt.	Community / Govt	Pvt.	Govt.	Pvt.			Electricity Pump	Diesel Pumps	Others		
			1					2						3		4	5	6		
1	Chamarajanagara	**Suvaranavathy Reservoir Project**																		
		No	1				1				175		9720			19356				
		Command Area (Ha)	6755.96				6755.96													
		Chikkahole Reservoir Project																		
		No	2				1													
		Command Area (Ha)	1649.53				1649.53													
2	Gundlupet	**Nallur Amanekere Reservoir Project**																		
		No	2				1				75		7275			13124				
		Command Area (Ha)	1299.87				1299.87													

Continued….

3	Kollegal	**Kabini Right Bank Canal (D-42, D-46 to D-62 & DPO 1 to 11 & River Canals)**																	
		No	20				1				2570		4632			16976				
		Command Area (Ha)	17516.0				17516.00													
		Gundal Reservior Project (LBC & RBC)																	
		No	2				1													
		Command Area (Ha)	2874.00				2874.00													
		Uduthorehalla Reservior Project (LBC & RBC)																	
		No	2				1													
		Command Area (Ha)	6214.00				6214.00													
4	Yelandur	**Kabini Right Bank canal (D-43, D-44, D-45**																	
		No	5				5				338		1221			3049				
		Command Area (Ha)	1232.2				1232.2													

CHAPTER –IV

WATER REQUIREMENT/ DEMAND FOR VARIOUS SECTORS

The Chamrajanagara District is mainly depending on South-West and North-East monsoon for both irrigation and drinking water purposes. The district mainly depends on ground water which is over exploited condition for irrigation purposes. So the gap between the water availability and the demand for various sectors is high and in 2020 the deficit is high. In order to close the gap the strategic action plan of the district comprising various department activities under PMKSY has to be drafted.

4.1. DOMESTIC WATER DEMAND

The domestic water demand is the water requirement for the population of the district to cater to their daily needs like drinking, cooking, bathing, cloth washing, utensil washing, house washing and sanitation requirements. As per BIS code 1172:1993 (reaffirmed in 2002), (Code of basic requirements for Water supply, Drainage and Sanitation) the domestic water requirement varies from 40 litresper capita/ day to 135 litresper capita /day.While calculating domestic water requirement, the type of habitation and type water supply are taken into considerations as per the BIS. Rural communities with population up to 20000. For habitations in rural areas, per head per day requirement is taken as 55 liter and for urban habitations in urban area it is taken as 135 liter per day per head. The detailed per capita per day requirement is given in table

Table.4.1.1. Domestic Water Demand(Rural Water Supply)

Sl.No	Block	Population in 2016	Projected Population in 2020	Gross Water Demand (BCM)
1	Chamarajanagar	297848	322400	0.017
2	Gundlupet	220243	238398	0.013
3	Kollegal	312973	338770	0.018
4	Yelandur	71646	77550	0.0042
	Total	**902710**	**977118**	**0.0522**

Source: EE, PRED ((Rural Water Supply), Chamarajanagar

Table 4.1.2. Domestic Water Demand (Urban Local Bodies)

Block	Population in 2016	Projected population in 2020	Gross water demand (BCM)
Chamarajanagar	75635	81870	0.011
Kollegal	61860	66959	0.009
Gundlupet	30422	32929	0.0044
Yelandur	9503	10286	0.0013
Hanur	11978	12966	0.0017
Total	189398	205010	0.0274

Source: District urban Development Cell, Chamrajanagar

4.2. CROP WATER DEMAND

Crop Water requirement is the quantity of water regardless of source, needed for normal crop growth and yield in a period of time at a place and many be supplied by precipitation or by irrigation or by both. Water is required mainly to meet the demands of Evaporation (E), Transpiration (T) and metabolic needs of the plants, all together is known as Consumptive use (CU). Since water used in the metabolic activities of plant is negligible, being only less than one percent of quantity of water passing through the plant, Evaporation (E) and Transpiration (T), i,e. ET is directly considered as equal to consumptive use (CU). In addition to ET, water requirement (WR) includes losses during the application of irrigation water to field (Percolation, seepage, and run off) and water required for special operations such as land preparation, transplanting, leaching etc....

WR= CU + application losses + water needs for special operations.

Water requirement (WR) is therefore, demand and the supply that would consist of contribution from irrigation, effective rainfall and soil profile contribution including that from shallow water tables (S)

WR = IR + ER + S

Under field conditions, it is difficult to determine evaporation and transpiration separately. They are estimated together as evaportranspiration (ET). IR is the irrigation requirement

4.2.1. Estimation of Evapotranspiration (ET):

Climate is the most important factor that decides the rate of ET. Several empirical formulas are available to estimate ET from climatic date. As per FAO guidelines Evapotranspiration was calculated using Modified penman method considering the factors like Precipitation, Sunshine, Wind velocity, Temperature, Relative humidity, Amount of vegetative cover on soil surface etc...

Water requirement of any crop depends on crop factors such as variety, growth stage, and duration of plant, plant population and growing season. Soil factors such as temperature, relative humidity, wind velocity and crop management practices such as tillage, fertilization, weeding, etc... Water requirement of crops vary from area to area and even field in a farm depending on the abovementioned factors.

As per Modified penman method:

$ET_{o = C [}$ W.Rn + (I.W). f (U) x (ea-ed)]

Where Rn = Net radiation in equivalent evaporation expressed as mm/day

W = temperature of altitude related factor

F (U) = Wind related function

Ea = ed = Vapour pressure deficit (mili bar)

C = the adjustment factor (ratio of U night)

Rn (0.75-Rns)

Ea = Saturated vapour pressure (m.bar)

ED = Mean actual vapour pressure of the air (m.bar)

4.2.2. Crop Coefficient

Crop coefficient is the ratio between evapotranspiration of crop (Etc) and potential evapotranspiration and expressed as

$$T (crop) = Kc X ETo$$

4.2.3. Irrigation Requirement

The field irrigation requirement of crops refers to water requirement of crops exclusive rainfall and contribution from soil profile and it may be given as follows.

IR = WR – (ER + S), Where,
IR - Irrigation requirement
WR - Water requirement
ER – Effective rainfall
S – Soil moisture contribution

Irrigation requirement dependsupon the

a) Irrigation need of individual crop based on area of crop
b) Losses in the farm water distribution system etc.,

All the quantities are usually expressed in terms of water depth per unit of land area (ha/cm) or unit of depth (cm)

4.2.4. NetIrrigation Requirement (NIR)

It is the actual quantity of water required in terms of depth to bring the soil to field capacity level to meet the ET demand of the crop. It is the water applied by irrigation alone in terms of depth, to bring the field to field capacity level. To work outthe net irrigation requirement, Ground water contribution andother gains insoil moisture are to be excluded. It is the amount of irrigation water required to bring the soil moisture level in the effective root zone to field capacity, which in turn meet the ET demand of the crop. It is the difference between theF.C. and the soil moisture content in the root zone before starting irrigation.

4.2.5. Gross Irrigation Requirement (GIR)

The total quantity ofwater usedfor irrigation istermed Gross Irrigation Requirement. It included netirrigation requirement and losses inwater application andother losses. The gross irrigation requirement can be determined for a field, for a farm, for an outlet command area, and for an irrigation project, depending on the need by considering the approximate losses at various stages of crop.

$$\text{Gross irrigation requirement} = \frac{\text{Net irrigation requirement}}{\text{Field efficiency of system}} \times 100$$

4.2.6. CROP WATER REQUIREMENT

Table 4.2.6.1District Crop Water Requirement for Agriculture Crops

Sl No	Crops	Area Sown (ha)	Irrigated area (ha)	Total Crop water demand (TMC)	Water potential required (BCM)	Existing water Potential (BCM)	Water Potential to be Created (BCM)
1	Paddy	15060	15060	7.98	0.226		
2	Jowar	13230	410	2.34	0.066		
3	Bajra	590	250	0.08	0.002		
4	Maize	39160	12100	7.82	0.222		
5	Ragi	17985	3975	2.61	0.074		
6	Bengal gram	3990		0.56	0.016		
7	Red gram	900	135	0.21	0.006		
8	other pulses	31250	330	3.87	0.110		
9	Groundnut	12430	60	2.20	0.062		
10	Castor	470		0.11	0.003		
11	Sunflower	9155	485	1.63	0.046		
12	Sesamum	810		0.10	0.003		
13	Niger	320		0.03	0.001		
14	Sugar cane	7740	7740	5.47	0.155		
15	Cotton	13700	120	3.63	0.103		
	TOTAL	**166790**	**40665**	**38.64**	**1.095**		

Source: Joint Director of Agriculture, Department of Agriculture, Chamrajanagar

Table.4.2.6.2 District Crop Water Requirement for Horticulture Crops

SL No	Crops	Area Sown (ha)	Irrigated area (ha)	Crop water demand/Ha (MCM)	Water potential required (BCM)	Existing water Potential (BCM)	Water Potential to be Created (BCM)
1	Banana	8098	8098	0.00219	0.17730		
2	Papaya	298	298	0.00219	0.00652		
3	Coconut	8438	8438	0.00438	0.31160		
4	Turmeric	7030	7030	0.00292	0.20520		
5	Tomato	2944	2944	0.00292	0.08596		
6	Chilli	674	674	0.00292	0.01968		
7	Brinjal	419	419	0.00292	0.012223		
8	Onion	4542	4542	0.00292	0.13262		
9	Water melon	980	980	0.00292	0.02861		
10	Cabbage	312	312	0.00292	0.00911		
11	Beetroot	220	220	0.00292	0.00642		
12	Beans	1030	1030	0.00292	0.03000		
13	Pomegranate	172	172	0.0020	0.00440		
TOTAL		**35157**	**35157**	**0.03704**	**1.029643**	**0.9125**	**0.237**

Source: Deputy Director of Horticulture, Department of Horticulture, Chamrajanagar

Table4.2.6.3. Crop Water Requirement in Sericulture

Sl No	Block	Crops	Area Sown (ha)	Irrigated area (ha)	Total Crop water demand (TMC)	Water potential required (BCM)	Existing water Potential (BCM)	Water Potential to be Created (BCM)
1	Chamrajanagar	Mullberry	520.21	359.96	0.22	0.006		
2	Gundulpet		83.97	57.85	0.04	0.001		
3	Kollegala		313.76	313.76	0.13	0.004		
4	Yalandur		88.32	85.17	0.04	0.001		
		TOTAL	1006.26	816.74	0.43	**0.012**		

Source: Deputy Director of Sericulture, Department of Sericulture, Chamrajanagar

4.3. LIVESTOCK WATER DEMAND

Table.4.3. LivestockWater Demand

Block	Total number of live stock	Present water demand (BCM)	Water demand in 2020 (BCM)	Existing Water Potential (BCM)	Water Potential to be created (BCM)
Chamarajanagara	246099	0.0052	0.052	0.0052	0.0468
Gundlupet	173245	0.005	0.05	0.005	0.045
Kollegala	279338	0.0071	0.071	0.0071	0.0639
Yelandur	48501	0.00051	0.0051	0.00051	0.00459
Total	**747183**	**0.01781**	**0.1781**	**0.01781**	**0.16029**

Source: EE-Panchayathraj Engineering Department (Rural Water supply) and Deputy Director, Department Of Animal Husbandry, Chamarajanagar

4.4. INDUSTRIAL WATER DEMAND

Table.4.4. Industrial Water Demand in Chamrajanagara district

Sl.No	Block	Name of the Industry	Regd. Industry	Un.Regd. Industry (Approx)	Water demand (BCM)	Water demand in 2020 (BCM)	Existing Water Potential (BCM)	Water Potential to be created (BCM)
1	Chamarajanagara		2955	3000	0.070	0.104	0.064	0.060
2	Gundlupet		1578	1500	0.038	0.054	0.034	0.020
3	Kollegala		3126	3100	0.074	0.140	0.068	0.072
4	Yelandur		1414	1400	0.034	0.050	0.032	0.018
	TOTAL		**9073**	**9000**	**0.216**	**0.348**	**0.198**	**0.170**

Source: Joint Director, District Industries Centre, Chamarajanagar

KIADB is establishing Industrial layout in an extent of 1460 ha area near Kellamballi village, which is 10km away from the district headquarter. Establishing non-polluting industries, formation of roads is under progress, brining water from Kabini River to a distance of 25km. Total quantum of water requirement planned for the industrial area is 5 million gallons per day.

4.5. WATER DEMAND FORPOWER GENERATION

In Chamarajanagar District, there are 2 divisions of CESC namely Chamarajanagara&Kollegala. Under Chamarajanagara Division, there are 5 Sub-divisions namely Chamarajanagara, Haradanahalli, Santhemarahalli, Gundlupet&Begur. There is no IPPs(Independent Power Plants) existing in Chamarajanagara Division. Whereas in Kollegala division, there are 3 Sub-divisions namely Kollegala, Hanuru& Yalandur. In Kollegala sub-division 2 IPPs are existing, namely

1. Bhoruka Power Corporation Limited
2. Pioneer Power Corporation Limited

4.5.1. BHORUKA POWER CORPORATION LIMITED

At Sathegala village is commissioned during 2006 having a generation capacity of 6.25MW. This station works approximately for 4 months per year during rainy season only.

4.5.2. PIONEER POWER CORPORATION LIMITED

At Shivanasamudra village is commissioned during 2007 having generation capacity of 24.75MW. This station also works approximately for 4-5 months per year during rainy season only.

Table.4.5. Water Demand for Power generation in Chamrajanagara district

Sl No	Block	Power Generation in MW	Water demand (BCM)	Water demand in 2020 BCM)	Existing water Potential (BCM)	Water Potential to be Created (BCM)	Remarks
1	Chamarajanagar	-	-	-	-	-	-
2	Gundlupet	-	-	-	-	-	-
3	Kollegal	6.25	4.73	4.73	2.35	2.35	Bhorukha Power Corporation Limited, Sattegala Mini Hydel Station, Sattegala
		24.75	27	54	27	27	Pioneer Power Corporation Limited at Shivanasamudra
4	Yelandur	-	-	-	-	-	-
	TOTAL	31	31.73	58.73	29.35	29.35	-

Source: KPTCL (CHESCOM), Kollegala division

4.6. TOTAL WATER DEMAND OF THE DISTRICT FOR VARIOUS SECTORS

Table.4.6.1.

Sl.No	Block	Components (for the year 2015)					Total BCM
		Domestic	Crop	Livestock	Industrial	Power generation	
1	Chamarajanagara	0.0272	0.65419	0.0052	0.070	0	0.75659
2	Gundlupet	0.02135	0.677958	0.0050	0.038	0	0.742308
3	Kollegala	0.0221	0.66975	0.0071	0.074	31.73	32.50295
4	Yelandur	0.0071	0.1946	0.00051	0.034	0	0.23621
	Total	**0.07775**	**2.196498**	**0.01781**	**0.216**	**31.73**	**34.238058**

Table.4.6.2.

Sl.No	Block	Components (for the year 2020)					Total BCM
		Domestic	Crop	Livestock	Industrial	Power generation	
1	Chamarajanagara	0.0280	0.65419	0.052	0.113825	0	0.848015
2	Gundlupet	0.0220	0.677958	0.050	0.054	0	0.803958
3	Kollegala	0.0224	0.66975	0.071	0.140	58.73	59.63315
4	Yelandur	0.0072	0.19460	0.0051	0.050	0	0.2569
	Total	**0.0796**	**2.196498**	**0.1781**	**0.358**	**58.73**	**61.542023**

4.7. WATER BUDGET

Sl. No	Name of the block	Existing water availability in BCM		Total (BCM)	Water Demand (BCM)		Water Gap (BCM)	
		Surface Water	Ground water		Present	Projected for (2020)	Present	Projected for (2020)
1	Chamarajanagar	0.150566	0.10831	0.258876	0.75659	0.848015	0.497714	0.589139
2	Gundlupet	0.032817	0.07553	0.108347	0.742308	0.803958	0.633961	0.695611
3	Kollegal	0.228015	0.13412	0.362135	32.50295	59.633150	32.140815	59.271015
4	Yelandur	0.038231	0.02391	0.062141	0.23621	0.256900	0.174069	0.194759
	TOTAL	0.449629	0.34187	0.791499	34.238058	61.542023	33.446559	60.750524

Chapter-V

STRATERGIC ACTION PLANS OF DIFFERENT DEPARTMENTS

DISTRICT IRRIGATION PLAN CHAMARAJANAGAR

Table 5.0. ABSTRACT OF STRATEGIC ACTION PLAN OF VARIOUS DEPARTMENTS

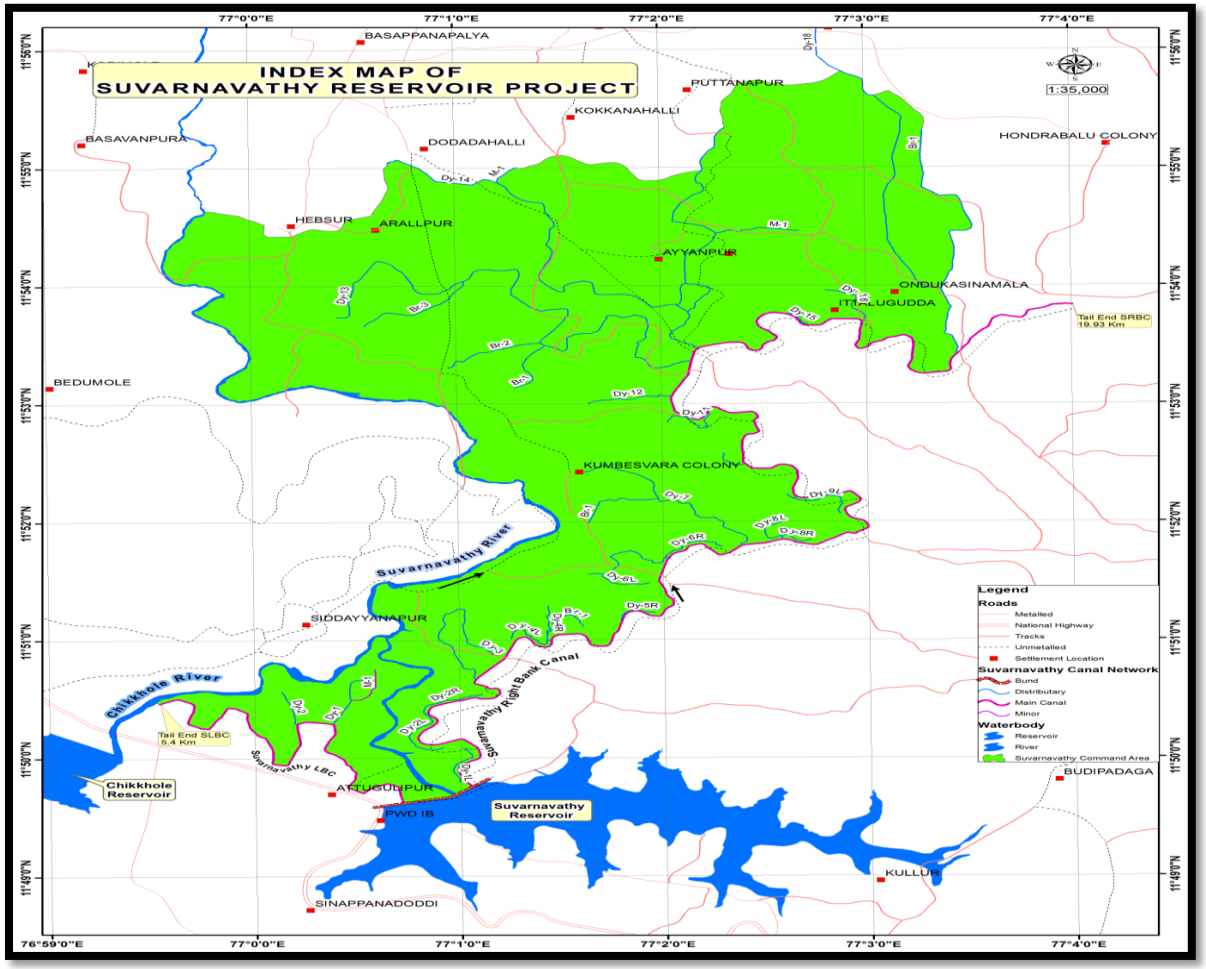
Sl No	Department	Name of The Works Taken	Estimated Cost (In Crores)
1	CNNL, Kabini Canals Division Nanjanagud	AIBP	352.30
2	CNNL, Kabini Canals Division Kollegal	AIBP	170.81
3	CNNL, Kabini Canals sub-Division Santhemarahalli	AIBP	87.00
4	Department Of Minor Irregation	Har kheth ko Pani	400.00
5	Panchyatraj Engineering department		36.90
6	Agricullture Department	Watershed Development	343.10
7	Agricullture Department	Per Drop More Crop Micro Irrigation	25.60
8	Horticulture Department		95.55
9	Sericulture Department		1.09
10	Comman Area Development Area	Cleaning Seepage Drains, Land Reclaimation	10.42
11	Rural Water Supply Department	Drinking Water Supply For Multi Village Scheme	915.45
12	Urbun Local Bodies	New Water Supply Schemes	408.50
13	Social Forestry	Raising and Planting of Forest Seedlings	5.53
Total			**2852.25**

5.1.1. SUVARNAVATHY RESERVOIR PROJECT

Suvarnavathi reservoir was constructed across river Suvarnavathi near Attigulipura in Chamarajanagar taluk. This project is a medium irrigation project, started in 1965 and completed in 1984, with right bank canal, which runs for a length of 19.90 km & left bank canal, which runs for a length of 5.25 km to irrigate an atchkut of 2671 Ha. (6600 acres) and 162 Ha. (400 acres) respectively, for which water is being supplied for Khariff season only. In addition irrigation facilities was also provided for the stabilization atchkut of 3923 ha (9694 ac) of the existing Suvarnavathi river channels, for which water is being supplied for summer season only.

1. (a) Original Estimated cost	Rs. 187 lakhs, administrativelyapproved Vide G.O. No PWD-3/GFY/64/Dt15-4-1966
(b) Contemplated atchkut	6756 ha. (16694 acres)
(c)Cost/ ha	Rs. 2770
2. (a)Revised Estimated cost	Rs. 248 lakhs, administrativelyapproved Vide G.O. No PWD-31/GFY/69/Dt3-2-1971
(b) Contemplated atchkut	6756 ha. (16694 acres)
(c) Cost /ha	Rs. 3670
3. (a)Re-revised Estimated cost	Rs. 370 lakhs, administrativelyapproved Vide G.O. No PWD-80/GFY/80/Dt8-12-1981
(b) Contemplated atchkut	6756 ha. (16694 acres)
(c) Cost /ha	Rs. 5480
4. Expenditure incurred since inception	Rs. 370 lakhs (Completed)
5. Potential created since inception	6756 ha.
6. Ultimate Utilisation	3.60 T.M.C
7. **Canals**: a) Left BankCanal b) Right BankCanal	5.25 km length, completed. 19.90 km length, completed.
8. Year of commencement of Project	1965
9. Year of completion	1984

Map: 5.1.1 INDEX MAP SUVARNAVATHI RESERVOIR PROJECT



Pic: 5.1.1 (a) View of L/S & R/S Embankment of Suvarnavathi Dam

Pic: 5.1.1 (b) View of Center dam of Suvarnavathi Dam

Pic: 5.1.1 (c) View of spilway of suvarnavathi Dam

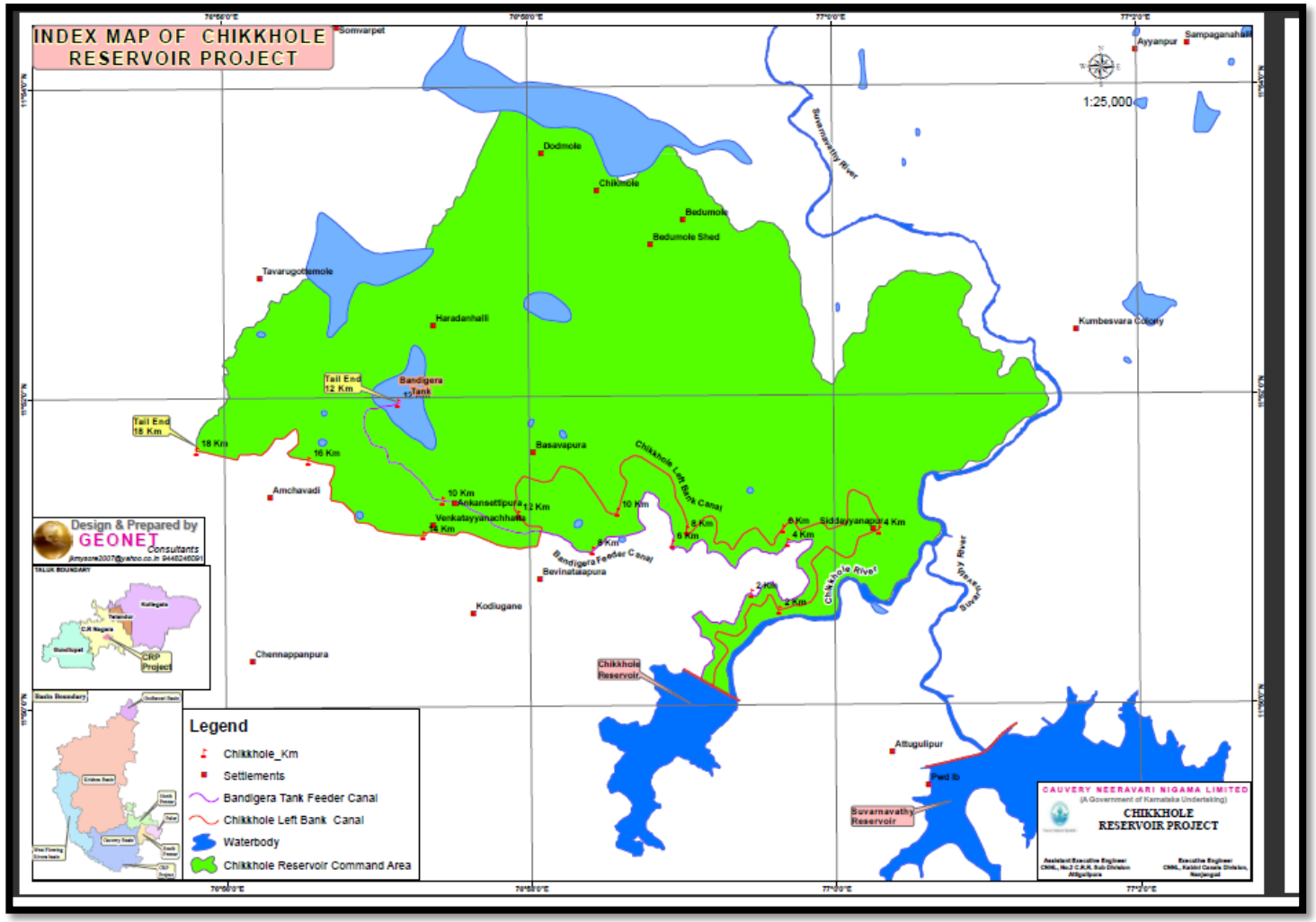
Pic: 5.1.1 (d) View of Spillway of Suvarnavathi Dam

5.1.2 CHIKKAHOLE RESERVOIR PROJECT - Brief Report

Chikkahole Reservoir was constructed across Chikkahole River near Attigulipura, village Chamaraja Nagar Taluk of Chamarajanagar District. This project is a medium irrigation project, started in 1958 and the after completion, the dam was breached in the year 1972, due to heavy flood. The reconstruction work was started during 1973 and completed in 1983, with left bank canal, which runs for a length of 18km and Bandigere canal, which runs for a length of 16 km, to irrigate an atchkut of 243 ha. (600 acres) &1407 ha. (3476 acres) respectively, for which water is being supplied for summer season only.

1. (a) Original Estimated cost	Rs. 124 lakhs, administratively approved Vide G.O. No PWD14/MCR//74/Dt 30.9.1975.
(b)Contemplated atchkut	1650 ha. (4076 acres)
(c)Cost/ ha	Rs. 7515
2. (a)Revised Estimated cost	Rs. 350 lakhs, administratively approved Vide G.O. No PWD-3/MCR//77 Bangalore November 1980
(b) Contemplated atchkut	1650 ha. (4076 acres)
(c) Cost /ha	Rs. 21210
3. Expenditure incurred since inception	Rs. 350 lakhs (Completed)
4. Potential created since inception	1650 ha.
5. Ultimate Utilisation	0.70 T.M.C.
6. Canals: a)Left BankCanal b) BandigereCanal	18 km length, completed. 16 km length, completed.
7. Year of commencement of Project	1958 / 1973 (Re-construction)
8. Year of completion	1983

Map: 5.1.2. INDEX MAP CHIKKHOLE RESERVOIR PROJECT



CHIKKAHOLE DAM

Pic: 5.1.2. (a) View of Chikkahole Dam

Pic: 5.1.2. (b) View of Spilway Chikkahole Dam

Pic: 5.1.2 (c) View of ungated spillway of Chikkahole Dam

Pic: 5.1.2. (d) View of D/S of Chikkahole Dam

Pic: 5.1.2 (f) View of Top of Embankment of Chikkahole Dam

5.1.3 NALLUR AMANIKERE RESERVOIR PROJECT

Nallur Amanikere reservoir was constructed across river Gundlu near Ingalavadi village in Gundlupet taluk, Chamarajanagar District. This project is a medium irrigation project, started in 1975 and completed in 1987, with right bank canal, which runs for a length of 5.20 km and left bank canal, which runs for a length of 14.20 km to irrigate an atchkut of 249 ha. (610 acres) and 1051 ha. (2590 acres), respectively.

1. (a) Original Estimated cost	Rs.190 lakhs- AdministrativelyApproved Vide GO No PWD72/GIP/73/Dated 2/1/1975
(b)Contemplated atchkut	1300 ha (3212 acres)
(c) Cost/ ha	Rs. 14615
2. (a)Revised Estimated cost	Rs. 550 lakhs Administeratively Approved Vide GO No PWD36/MEH 86//Dt14/9/1989
(b) Contemplated atchkut	1300 ha. (3212 acres)
(c) Cost /ha	Rs. 42310
3. Expenditure incurred since inception	Rs. 550.00 lakhs (Completed)
4. Potential created since inception	1300 ha.
5. Ultimate Utilisation	0.345 T.M.C
6. **Canals**: a)Left BankCanal b) Right BankCanal	14.20 km length & completed. 5.20 km length & completed.
7. Year of commencement of Project	1975
8. Year of completion	1987

Pic: 5.1.3. (a) LBC of NAP

Pic: 5.1.3. (b) RBC of NAP

Pic: 5.1.3. (c) d/s of NAP DAM

Pic 5.1.3. (d) Upstream of Dam (Water Storage)

Pic: 5.1.3. (e) Waste Weir of Nap

TABEL: 5.1.4 STRATEGIC ACTION PLAN OF CNNL-KABINI CANAL DIVISION- NANJANGUDU

Sl No	Name of the Project	Name of Work	Command Area / Irrigation Potential (Ha)	Period of Implementation (5/7 yrs)	Est. Cost	Remarks
Chamarajanagara Taluk						
1	**Suvaranavathi Reservior Project**	Providing C.C lining in Minors of distributory No.3 of SRBC.	136.82	5	100.00	These works are necessary for proper irrigation management to the tail end atchkat. By this water will be saved.
2		Providing C.C lining from ch.5.50 km to 7.00 km of Hebbasur distributory (in vulerable reaches) & providing C.C lining in Minors of Hebbasur Distributory of SRBC.	683.23	5	150.00	
3		Providing C.C lining in left out reaches from ch.0.00 km to 7.00 km of Dadadahally distributory & in minors of Dadadahally distributory of SRBC.	748.36	5	250.00	
4		Providing C.C lining from ch 0.00 km to 3.00 km (in left out reaches) & in Minors of Puttanapura distributory of SRBC.	193.07	5	150.00	
5		Re-construction of Pipe outlets in the Controlling arrangements from ch.0.00 km to 19.90 km of SRBC.	969.23	5	300.00	
6		Providing C.C lining in Distributory No 1 & its Minors of P.O.No 1 to P.O.No 6 of LBC of SRP	161.87	5	400.00	
7		Providing C.C lining to bed & sides in vulureable reaches from ch 0.00 to 12.00 km of Hongalavadi Channel.	242.81	5	200.00	

Continued…

8	Suvaranavathy Reservior Project	Providing C.C lining to bed & sides from ch 0.00 to 5.40 km of Muralihalla Channel.	170.37	5	100.00	
9		Providing C.C lining to bed & sides from ch 0.00 to 5.40 km of Sargur Channel.	104.00	5	50.00	
10		Providing C.C lining to bed & sides from ch 0.00 to 7.00 km & its Minors of Alur New Channel.	70.41	5	250.00	
11		Providing C.C lining to bed & sides from ch 0.00 to 4.80 km Hosahally Old Channel.	105.22	5	150.00	
12		Providing C.C lining to bed & sides from ch 0.00 to 4.80 km & its Minors of Homma Channel.	44.51	5	200.00	
13		Providing C.C lining to bed & sides from ch 0.00 to 7.00 km of Alur Old Channel.	86.19	5	200.00	
14		Providing C.C lining to bed & sides from ch 0.00 to5.00 km Hosahally New Channel.	55.44	5	200.00	
15		Improvements to Pipe outlets & Feeder canals of tanks & De-silting in tanks bed coming under Suvaranavathy Reservior Project (7-tanks).	803.72	5	410.00	Feeder canals improvements are necessary in order to avoid the water loses in the these canal.
16	Chikkahole Reservior Project	Removal of Silt in Chikkahole Dam (qty 23.00 mcft)	1649.53	7	520.00	This work is necessary to rejunavate and to improve the storage capacity of Chikkahole dam by removing the 23.00 Mcft of silt in storage area.

Continued…

17	Chikkahole Reservior Project	Providing C.C lining to bed & sides in left out reaches of LBC & distributories & Providing Controlling arrangements from ch 0.00 to 18.00 km LBC of CRP.	1492.51	5	400.00	These works are necessary for proper irrigation management to the tail end atchkat. By this water will be saved.
18		Providing C.C lining to bed & sides in left over reaches & reconstruction of Po's from ch 0.00 to 12.00 km Bandigere Channel.	157.02	5	300.00	
19		Improvements to Pipe outlets & Feeder canals of tanks & De-silting in tanks bed coming under Chikkahole Reservior Project (4-tanks).	1110.84	5	250.00	Feeder canals improvements are necessary in order to avoid the water loses in the these canal.
Gundlupet Taluk						
20	Nallur Amanekere Reservior Project	Improvements to tank bund, pipe outlets & De-silting in tanks bed & Improvements to LBC & RBC coming under Nallur Amanekere Reservior Project. (2 tanks)	242.81	2	50.00	Feeder canals improvements are necessary in order to avoid the water loses in the these canal.
21		Improvements to tank bund & Providing Clay blanket for water spread area near Toe of tank bund on U/S of NAP.	1299.87	5	500.00	This work is necessary to avoid percoluction losses from tank bed.

Continued….

24	Lift Scheme Project	Scheme to fill 20 tanks in Chamarajanagara & Gundlupet tanks for drinking water purpose -Operational & Maintenance of Alumbur Lift Scheme	-	5	2000	These schemes are tank filling schemes in drought prone areas of Nanjangud, Chamarajanagar, Gundlupet& Yelandur Taluks.
25		Scheme to fill 12 tanks in Gundalupet tanks for drinking water purpose -Operational & Maintenance Of Gandhigrama Lift Scheme. (for thr year 2017-18 to 2019-20)	-	5	800	
26		Scheme to lift water from Raghavapura tank near Raghavapura village to fill 4 tanks of Gundlupet taluk for drinking water purpose.	-	5	1500	
27		Scheme to lift water from Kabini river near Suttur village to fill 24 tanks in Nanjungud, Yelandur & Chamarajanagara taluk for drinking water purpose.	-	5	23300	
28		Scheme to lift water from Uttur tank near Uttur village to fill 8 tanks in Gundlupet taluk for drinking water purpose.	-	5	1500	
Total					**35230.00**	

5.2 STATERGIC ACTION PLAN OFCAUVERY NEERAVARI NIGAMA LIMITED KABINI CANALS DIVISION, KOLLEGALA

No.2, Kabini Canal Division, CNNL, Kollegal was formed on 16-07-1982 and the Division has the following jurisdiction

5.2.1 KABINI PROJECT:

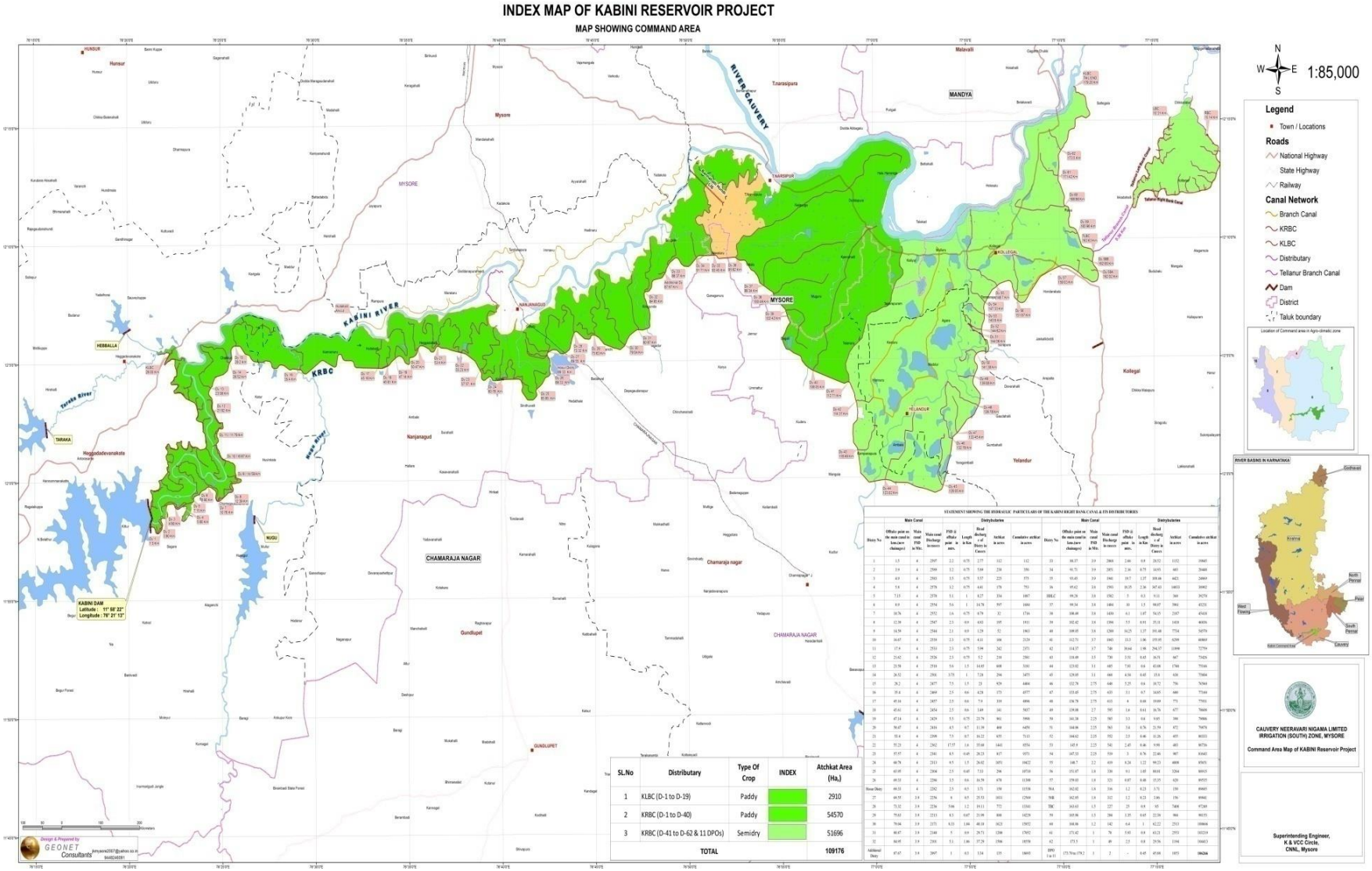
Kabini Right Bank Canal from Ch. 130.00 to 200.00 Km and Distributories S.M. Hally D-42 from Ch. 0.00 to 19.00 Km, Honnur D-42 from Ch. 1.87 to 17.00 Km, then Distributories from D-46 to D-62, DPO-1 to 11 and Tellanur Branch Canal, which having total atchkut of 17516 hectares.

There are 17 No.s of Minor Irrigation Tanks comes under these distributories which having total atchkut of 8786 hectares but this atchkut is overlapped under Kabini atchkut only.

There are 2 Medium Irrigation Projects comes under this division.

Pic: 5.2.1 KABINI DAM

Map: 5.2.1 Index Map of KABINI



SL.No	Distributary	Type Of Crop	INDEX	Atchkat Area (Ha.)
1	KLBC (D-1 to D-19)	Paddy		2910
2	KRBC (D-1 to D-40)	Paddy		54570
3	KRBC (D-41 to D-62 & 11 DPOs)	Semidry		51696
	TOTAL			109176

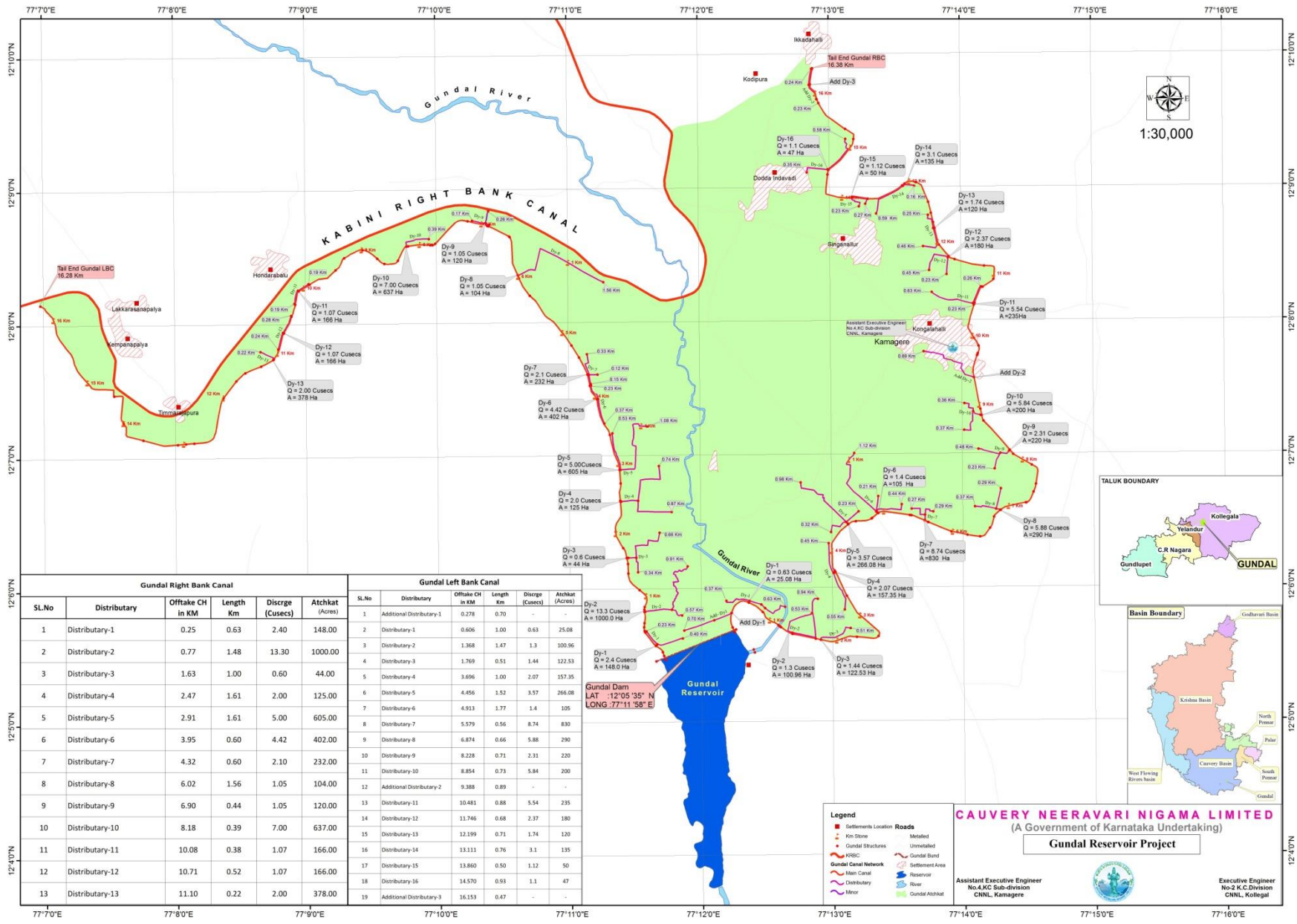
5.2.2. GUNDAL RESERVOIR PROJECT:

Gundal is one of the major streams in Kollegal Taluk. It takes its origin in the range of Doddasampige Reserved Forest near Biligiriranga Range of Hills in Chamarajanagar District. The stream traverses a distance of about 33 miles and joins River Cauvery. The stream flows entirely in Kollegal Taluk and the confluence of Gundal Stream with Cauvery River is about 7 miles upstream of Hydro Electric Station at Shivanasamudram.

The Gundal Reservoir Project contemplates the construction of two irrigation canals namely Left bank canal and Right Bank canal to Irrigate about 4,048 hectares in addition to an stabilized atchkut of 2064 hectares in the valley (Total : 6,112 hectares with an utilization of 1.80 TMC) . However after construction of Kabini Project, now only 2874 hectares remain under Gundal Project as over Cauvery Tribunal order with water allocation of 1.15 TMC.

Pic: 5.2.2. GUNDAL RESERVIOR PROJECT

Map: 5.2.2. Index Map of GundalDam



Gundal Right Bank Canal

SL.No	Distributary	Offtake CH in KM	Length Km	Discrge (Cusecs)	Atchkat (Acres)
1	Distributary-1	0.25	0.63	2.40	148.00
2	Distributary-2	0.77	1.48	13.30	1000.00
3	Distributary-3	1.63	1.00	0.60	44.00
4	Distributary-4	2.47	1.61	2.00	125.00
5	Distributary-5	2.91	1.61	5.00	605.00
6	Distributary-6	3.95	0.60	4.42	402.00
7	Distributary-7	4.32	0.60	2.10	232.00
8	Distributary-8	6.02	1.56	1.05	104.00
9	Distributary-9	6.90	0.44	1.05	120.00
10	Distributary-10	8.18	0.39	7.00	637.00
11	Distributary-11	10.08	0.38	1.07	166.00
12	Distributary-12	10.71	0.52	1.07	166.00
13	Distributary-13	11.10	0.22	2.00	378.00

Gundal Left Bank Canal

SL.No	Distributary	Offtake CH in KM	Length Km	Discrge (Cusecs)	Atchkat (Acres)
1	Additional Distributary-1	0.278	0.70	-	-
2	Distributary-1	0.606	1.00	0.63	25.08
3	Distributary-2	1.368	1.47	1.3	100.96
4	Distributary-3	1.769	0.51	1.44	122.53
5	Distributary-4	3.696	1.00	2.07	157.35
6	Distributary-5	4.456	1.52	3.57	266.08
7	Distributary-6	4.913	1.77	1.4	105
8	Distributary-7	5.579	0.56	8.74	830
9	Distributary-8	6.874	0.66	5.88	290
10	Distributary-9	8.228	0.71	2.31	220
11	Distributary-10	8.854	0.73	5.84	200
12	Additional Distributary-2	9.388	0.89	-	-
13	Distributary-11	10.481	0.88	5.54	235
14	Distributary-12	11.746	0.68	2.37	180
15	Distributary-13	12.199	0.71	1.74	120
16	Distributary-14	13.111	0.76	3.1	135
17	Distributary-15	13.860	0.50	1.12	50
18	Distributary-16	14.570	0.93	1.1	47
19	Additional Distributary-3	16.153	0.47	-	-

5.2.3. UDUTHOREHALLA RESERVOIR PROJECT:

Uduthorehalla Reservoir Project is constructed near Ajjipura in Kollegal taluk, is a medium irrigation project to irrigate an extent of 6602 Ha through two canal on either flanks (LBC & RBC) utilizing 1.231 TMC (2 fillings) and after construction of canals 6214 Hectares actual potential created under Uduthorehalla Project. Now water is being allowed to canals on trail run basis.

5.2.3.1. LIFT IRRIGATION PROJECTS:

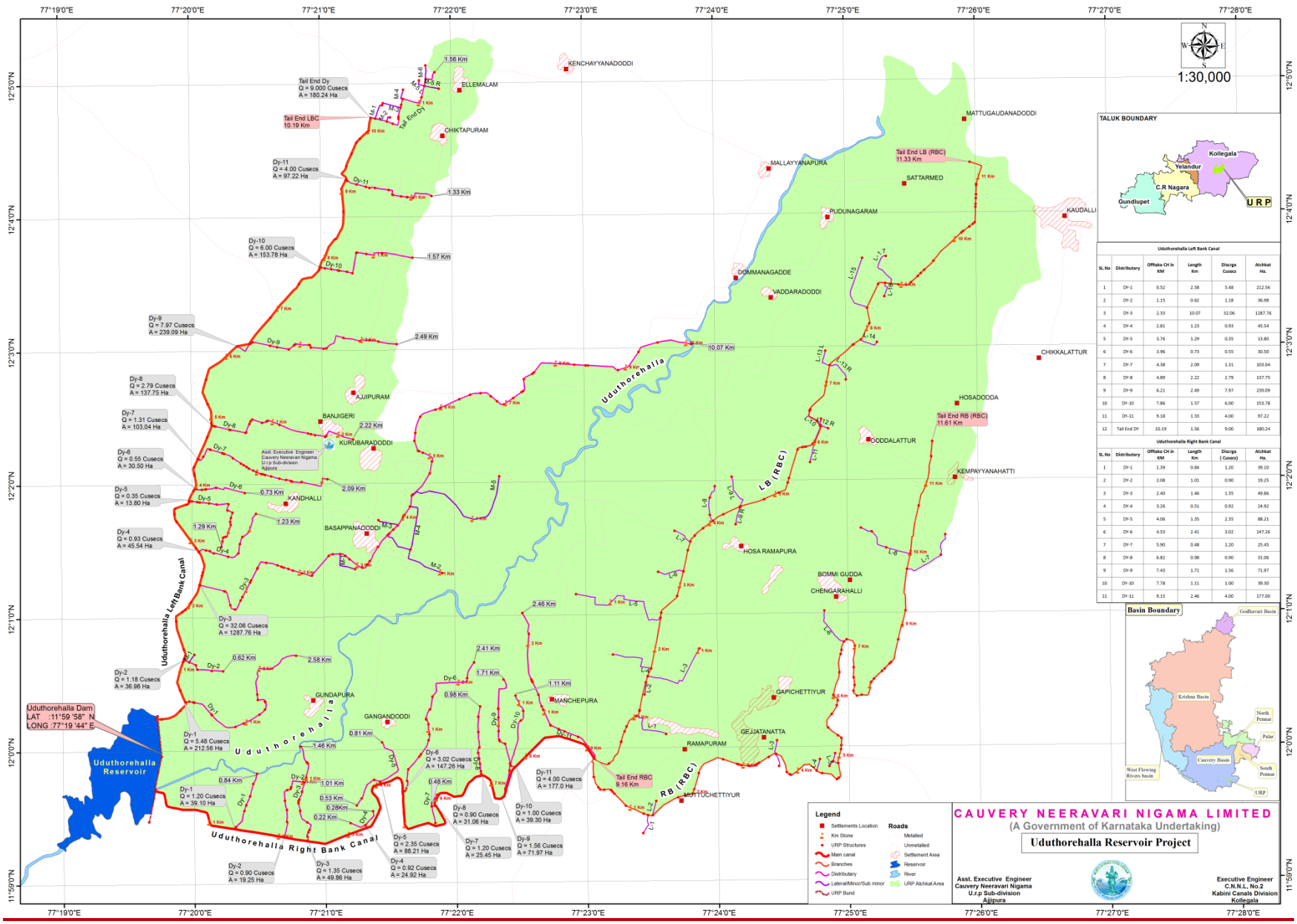
There are 2 No. of Lift Irrigation Scheme namely

(1) Sathegala LIS providing irrigation facilities to 243 hectares and

(2) Harale LIS providing irrigation facilities to 125 hectares.

5.2.3. UDUTHOREHALLA RESERVIOR PROJECT

5.2.3.(a1) Index Map of UDUTHOREHALLA RESERVIOR



Uduthorehalla Left Bank Canal

Sl. No	Distributary	Offtake CH in KM	Length Km	Discrga Cusecs	Atchkat Ha.
1	DY-1	0.52	2.58	5.48	212.56
2	DY-2	1.15	0.62	1.18	36.98
3	DY-3	2.33	10.07	32.06	1287.76
4	DY-4	2.81	1.23	0.93	45.54
5	DY-5	3.76	1.29	0.35	13.80
6	DY-6	3.96	0.73	0.55	30.50
7	DY-7	4.38	2.09	1.31	103.04
8	DY-8	4.89	2.22	2.79	137.75
9	DY-9	6.21	2.49	7.97	239.09
10	DY-10	7.86	1.57	6.00	153.78
11	DY-11	9.18	1.33	4.00	97.22
12	Tail End DY	10.19	1.56	9.00	180.24

Uduthorehalla Right Bank Canal

Sl. No	Distributary	Offtake CH in KM	Length Km	Discrga (Cusecs)	Atchkat Ha.
1	DY-1	1.39	0.84	1.20	39.10
2	DY-2	2.08	1.01	0.90	19.25
3	DY-3	2.40	1.46	1.35	49.86
4	DY-4	3.26	0.51	0.92	24.92
5	DY-5	4.06	1.35	2.35	88.21
6	DY-6	4.53	2.41	3.02	147.26
7	DY-7	5.90	0.48	1.20	25.45
8	DY-8	6.82	0.98	0.90	31.06
9	DY-9	7.43	1.71	1.56	71.97
10	DY-10	7.78	1.11	1.00	39.30
11	DY-11	9.15	2.46	4.00	177.00

Anecut Channels:

DhanagereJagirdar Anicut was constructed across Cauvery River near Dhanagere village in Kollegal – Malavalli road about 100 years back and the Right Bank Canal takes off from the Anicut through head sluice having three gates of size 1.50m x 1.20m. The designed discharge of the sluice is 25 Cusecs. The channel is having 26 DPO's and irrigates 267 hectares.

Hubbe Hunse New Tank Project:

Hubbe Hunase New tank project isnconstructed near Uddanur Village in Kollegal Taluk across Thattehalla, a tributary to river Cauvery for providing irrigation facilities to 364 hectares of semi-dry crops covering the villages of Hanur and Belthur with water allocation of 0.104 TMC

5.2.3.(a2) Index Map of Hubbe-Hunise

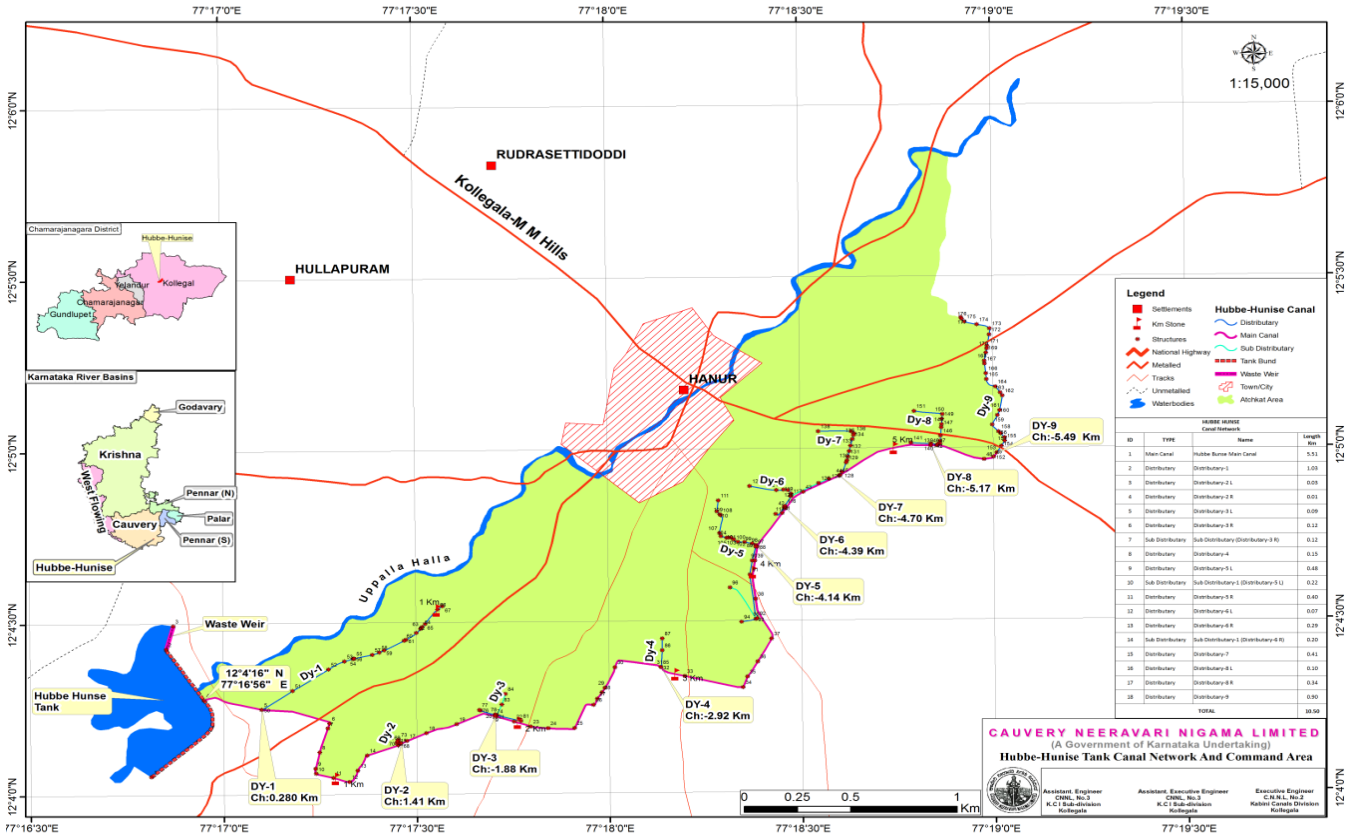


Table: 5.2.3.Details of Tanks Maintained By - CNNL, Kabini Canals Division,Kollegala

Sl. No.	Name of the Tank	Taluk	Village	Block/GP	Total Atchkut in ha.	Length of Bund in metres	Length of weir in meters	Capacity in MCFT	Tank Type
1	Kestur	Yalandur	Kestur	Kestur	197.23	2358.00	25.00	21.14	System Tank
2	Yalandur	Yalandur	Yalandur	Yalandur	669.34	2900.00	35.00	111.66	System Tank
3	Yeriyur	Yalandur	Yeriyur	Yeriyur	711.09	2100.00	35.00	118.58	System Tank
4	Maddur	Yalandur	Maddur	Maddur	950.72	3500.00	35.00	111.20	System Tank
5	Agara	Yalandur	Agara	Agara	1535.06	4000.00	35.00	156.60	System Tank
6	Chikkaranganatha	Kollegal	Kollegal	Kollegal CMC	514.00	1700.00	35.00	15.00	System Tank
7	Mudigunda	Kollegal	Mudigunda	Kollegal CMC	223.35	1055.00	8.50	8.00	System Tank
8	Palyam	Kollegal	Palya	Palya	257.00	2000.00	32.00	22.00	System Tank
9	Dhanagere	Kollegal	Dhanagere	Dhanagere	138.00	950.00	23.00	7.00	System Tank
10	Papanakere	Kollegal	Madhuvanahally	Madhuvanahally	157.22	1100.00	25.00	9.40	System Tank
11	Hondarabalu	Kollegal	Hondarabalu	Hondarabalu	990.28	750.00	40.00	4.00	System Tank
12	Mullur	Kollegal	Mullur	Mullur	210.80	2000.00	25.00	65.29	System Tank
13	Kunthur	Kollegal	Kunthur	Kunthur	171.00	2460.00	25.00	71.12	System Tank
14	Doddaranganatha	Kollegal	Madhuvanahally	Madhuvanahally	1209.10	1700.00	35.00	59.60	System Tank
15	Hampapura	Kollegal	Hampapura	Hampapura	360.31	1700.00	15.00	11.00	System Tank
16	Kongalagere	Kollegal	Kollegal	Kollegal CMC	278.12	970.00	20.00	8.00	System Tank
17	Therambally	Kollegal	Therambally	Therambally	214.14	1250.00	12.00	79.93	System Tank
		System Tank total			**8786.76**	**32493.00**	**460.50**	**879.52**	

Tabel 5.2.4 (a)Strategic Action Plan of Cnnl, Kabini Canals, Division Kollegala

(a) Modernization of Canals & Tanks

Sl. No.	Name of the Blocks/ sub district	Concerned Ministry Department	Component	Name of the Block	Activity	Total length of canal (in KM)	Command Area/Irrigation Potential (Ha)	Period of Implementation (5/7 yrs)	Estimated cost Rs. In Lakhs
1	Kollegal	Water Resource	Canal	LBC of Gundal Resservoir Project	Modernisation of Canal for proper irrigation management to the tail end atchkut. By this water will be saved.	16.00	920	5 Years	600
2				RBC of Gundal Resservoir Project		16.00	2024	5 Years	600
3				Ridge Canal of D-56 of Kabini Right Bank Canal		3.50	1320	5 Years	300
4	Yalandur			D-48 of Kabini Right Bank Canal		5.64	312	5 Years	300
5				D-50 of Kabini Right Bank Canal		3.21	161	5 Years	200
6				D-52 of Kabini Right Bank Canal		2.50	184	5 Years	150
7	Kollegal			D-54 of Kabini Right Bank Canal		2.50	367	5 Years	150
8	Kollegal		Tank	Ramanagudda Tank	Ramanagudda Lift Scheme to Lift water from Cauvery river near Saraguru Village to fill Ramanagudda Tank, Hubbe Hunse Tank & Gundal Reservoir in Kollegal Taluk for Drinking water purpose	0.808	397	5 Years	12900
			Total			**50.16**	**5685**		**15200**

Tabel: 5.2.4 (b) Strategic Action Plan of Cnnl, Kabini, Canals Divisions Kollegala
(b) Restoration& Rejuvenation of Tanks

Sl.No.	Taluk	Name of work	Activity	Estimated cost (Rs.in lakhs)	Remarks
1	Yelandur	Yeriyur Tank	Restoration & Rejuvenration of Tanks	526.00	Accroding to Survey conducted by the Department 30 to 40 % of Silt filled in the tanks, hence Restoration & Rejuveneration of Tanks are necessary
2	Yelandur	Maddur Tank		208.00	
3	Yelandur	Agara Tank		160.00	
4	Yelandur	Yalandur Tank		166.00	
5	Kollegal	Kogalakere Tank		103.00	
6	Kollegal	Theramballi Tank		150.00	
7	Kollegal	Mullur Tank		73.00	
8	Kollegal	Kunthur Tank		144.00	
9	Kollegal	Hampapura Tank		64.15	
10	Kollegal	Doddaranganath Tank		141.00	
11	Kollegal	Hondarabalu Tank		146.00	
		TOTAL		**1881.15**	

5.3 STRATEGIC ACTION PLAN OF CNNL, KABINI CANAL SUB- DIVISION SANTEMARALLI

MODERNIZATION OF CANALS & TANKS

Kabini Right bank canal of Kabini reservoir runs to a distance of 200 km strting from H.D.Kote to Jageri of Kollegala taluk. The distributories D-43, D-44 and D-45 located in between 97 km to 130 km are coming to the limits of Santhemaralli Sub-division.

The Main Canal is having Cement Concrete lining and is distributing 1250 cusec water for Irrigation Semi dry crops during Kharif Season. This nala is providing Irrigation for 1232.3 ha and these canal water distributories are constructed during 1992. Since Water is being distributed in these canals for past 24 years, these distributories are in bad condition. This nala is also suppliying additional irrigation water to 10 tanks, these tanks have also silted up. Hence modernization of canals for proper lrrigation water management, desilting,improvement of bund, feeder channel & waste weir is very much essential. In this regard Action Plan is prepared for Rs.87 Crores from this sub- division.

Table5.3.1 STRATEGIC ACTION PLAN OF CNNL, KABINI CANALS, SUB- DIVISION SANTEMARALLI MODERNIZATION OF CANALS & TANKS

Sl. No.	Name of project	Concerned ministry/ Department.	Component.	Activity.	Name of work.	Command area /irrigation potential (Ha)	Period of Implimentaion (5/7yrs.)	Est.cost.Rs.in Lakhs.
1	2	3	4	5	6	7	8	9
2	Kabini Right Bank Canal.	Majar Irrigaton /WRD , CNNL	AIBP.	Majar Irrigation.	Improvement to service road from ch; 97km to 130km of KRBC.	Kabini	5 Years	750.00
3					Improvement to service road of D-43 of KRBC.	670 A	5 Years	300.00
4					Improvement to service road of D-44 of KRBC.	1740 A	5 Years	400.00
5					Improvement to service road of D-45 of KRBC.	638 A	5 Years	250.00
6					Improvementgs to Service road from Homma Barriage to Ambale Tank under KRBC	380 A	5 Years	150.00
7					Improvement to service road of Honganur-Hirikere lift Irrigation Schme of KRBC.	2000 A	5 Years	100.00
8					Improvoments to Roads and drains in Kabini colony at Santhemarahalli		5 Years	150.00
9					Providing cc lining to D-43 & its minors under KRBC.	670 A	5 Years	300.00
10					Providing cc lining to D-44 & its minors under KRBC.	1740 A	5 Years	500.00
11					Providing cc lining to D-45 & its minors under KRBC.	638 A	5 Years	250.00

Continued...

12	Kabini Right Bank Canal.	Majar Irrigaton /WRD , CNNL	AIBP.	Majar Irrigation.	Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Bagali tank under KRBC.	123 A	5 Years	400.00
13					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Kandahalli tank under KRBC.	45 A	5 Years	350.00
14					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Duggahatti tank under KRBC.	73 A	5 Years	350.00
15					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Ambale tank under KRBC.	380 A	5 Years	600.00
16					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Irasavadi tank under KRBC.	110A	5 Years	450.00
17					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Uppinamole tank under KRBC.	54 A	5 Years	400.00

Continued...

18	Kabini Right Bank Canal.	Majar Irrigaton /WRD , CNNL	AIBP.	Majar Irrigation.	Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Y.K mole tank under KRBC.	60 A	5 Years	500.00
19					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Gumbally tank under KRBC.	257 A	5 Years	500.00
20					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Yerangamballi tank under KRBC.	120 A	5 Years	500.00
21					Removal of Silt and jungle, Improvements to Bund and providing Revetment, Improvements to feeder canal, Sluice, Waste weirs & Service Roads to Suttur tank under KRBC.	124 A	5 Years	500.00
22					Upgradation of Hirikere LIS at ch. 128.35KM of KRBC	2000 A	5 Years	500.00
23					Upgradation of Bagli LIS at ch. 102.00KM of KRBC	120 A	5 Years	200.00
24					Improvements to Linganapura pickup under KRBC		5 Years	100.00
25					Improvements to Shanehalla pickup under KRBC		5 Years	200.00
							Total.	**8700.00**

Tabel 5.3.2.Statement Showing the Command Area Details of Tanks Coming Under No.3, K.C.C. Sub- Division, Santhemaralli

Sl.No	Name of Tank	Name of Taluk	Water Spread area in Acres	Atchkut in Acres	Total Capacity In mcff.	Remarks
1	Uppinamole	Yelandur	54	62	7.83	Improvements to bund and providing Revertment, Improvements to feeder canal, removal of slipt with weeds , Sluice, waste weirs $ service Roads from nearest village upto the minor irrigation tanks tree plantation inside and periphery of the tank , formation of Mounds inside the tank and other overall improvements which will be helpful for farmers
2	Y.K.Mole	Yelandur	60	64-08	6.26	
3	Gumballi	Yelandur	257	329	29.13	
4	Yelekere (Yeragamballi)	Yelandur	120	172	18.3	
5	Kandalli	Yelandur	45	72-19	5.78	
6	Duggahatti	Yelandur	73	47-36	10.94	
7	Ambale	Yelandur	380	670	62.39	
8	Suttur	Chamarajanagar	124	203	13.3	
9	Irasavadi	Chamarajanagar	110	77	20.2	
10	Bagali	Chamarajanagar	123	210	22.9	
	Total		**1346**	**1723**	**197.03**	

5.4. Department of Minor Irrigation, Chamarajanagar

Chamarajanagar District is socially, economically and educationally most backward, even though the District is geographically rich with forest coverage and wild animals. But the rainfall is less comparing to the other District of the State. Therefore an integrated and comprehensive development of the district is most important.

Minor Irrigation Department is maintaining 64 Minor IrrigationTanks, 13 Pickups, and 4 Lift Irrigation Schemes in Chamarajanagar District with a designed atchkut of 15668.11 hectares and 73.36 MCM.

Because of shortfall in rainfall and accumulation of silt in the water bodies the actual storage of water and atchakat is reduced to 20 to 30%. Therefore to meet out the shortfall in the designed atchkut and water, it is essential to desilt the tank bed, removal of silt in feeder canal for improvement of canal system.It is also very essential to strengthen the tank bund, and to take up improvement works like waste weir, head sluice, and canal network etc.Therefore 5 years programme of works is prepared for District Irrigation Plan (DIP) under PMKSY

Pic: 5.4. Kerehalli Tank
Chamarajanagara Taluk

Table.5.4.1 Block Wise Details Of Minor Irrigation Tanks, Pickups and Lift Irrigation Schemes

Sl. No.	Panchayat Name	Tank Code	Tank Name	Whether Tank Belongs to MI Tank /PWD Tank / PT Tank	Area in ha.	Capacity of Tank in Cum	Capacity of Tank in MCM	Capacity in BCM	Tank Type
CHAMARAJANAGAR TALUK									
1	Honganuru	27000202909100M1	Bellattasane Tank	MI Tank	66.85	4440000	4.44	0.0044	Storage Tank
2	punajanuru	27000202923900M1	Mukanapalya Tank	MI Tank	11.84	300000	0.30	0.0003	Storage Tank
3	Jothygowdanapura	27000202928000M1	Hondarabalu Tank	MI Tank	72.00	570000	0.57	0.0006	Storage Tank
4	Hardanahalli	27000202917000M1	Maragada Tank	MI Tank	87.00	910000	0.91	0.0009	Storage Tank
5	Amachavadi	27000202917600M1	Amachawadi Tank	MI Tank	56.70	1560000	1.56	0.0016	Storage Tank
6	Mangala	-	Yadiyur Addahalla	MI Tank	51.41	870000	0.87	0.0009	Storage Tank
7	Mukkadalli	27000202913300M1	Kerehalli Tank	MI Tank	108.70	1470000	1.47	0.0015	Storage Tank
8	Banadaguppe	27000202917000M1	Malagere Tank	MI Tank	88.00	920000	0.92	0.0009	Storage Tank
9	Kudlur	27000202911400M1	Doddarayapete Tank	MI Tank	68.00	300000	0.30	0.0003	Storage Tank
10	Jothygowdanapura	27000202921300M1	Kathanayakana Tank	MI Tank	32.00	480000	0.48	0.0005	Storage Tank

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11	Bisilavadi	27000202920000M1	Kodi Uganiya Tank	MI Tank	4.65	100000	0.10	0.0001	Storage Tank
12	Chandakavadi	27000202921700M1	Kodi Mole Tank	MI Tank	36.00	400000	0.40	0.0004	Storage Tank
13	Nanjadevanpura	27000202915300M1	Anemaduvina Tank	MI Tank	62.02	520000	0.52	0.0005	Storage Tank
14	Kothalavadi	27000202917900M1	Narasamangala Tank	MI Tank	32.30	670000	0.67	0.0007	Storage Tank
15	Honnalli	27000202919900M1	Channappanapura Tank	MI Tank	17.24	320000	0.32	0.0003	Storage Tank
16	Bokkepura	27000202917800M1	Mooru Thubina Tank	MI Tank	20.00	250000	0.25	0.0003	Storage Tank
17	Kempanapura	27000202907400M1	Kempanapura Tank	MI Tank	85.02	1190000	1.19	0.0012	Storage Tank
18	Ummathuru	27000202906600M1	Ummatturu Tank	MI Tank	62.70	1780000	1.78	0.0018	Storage Tank
19	Honganuru	27000202909100M1	Honganuru Hirikere Tank	MI Tank	128.17	6140000	6.14	0.0061	Storage Tank
20	Yaraganahalli	270002'02918400M1	Yaraganahalli Tank	MI Tank	16.00	540000	0.54	0.0005	Storage Tank
			TOTAL		**1091**	**23190000**	**23.19**	**0.0233**	

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	GUNDLUPET TALUK								
1	Shivapura	-	Kalkatte Tank	MI Tank	91.00	2850000	2.85	0.0029	Storage Tank
2	Nittre	27000102890800M1	Kamarahalli Tank	MI Tank	100.00	2670000	2.67	0.0027	Storage Tank
3	Hangala	27000102905100M1	Mangala Tank	MI Tank	81.00	4890000	4.89	0.0049	Storage Tank
4	Kuthanuru	27000102895400M1	Kuthanur Tank	MI Tank	52.10	810000	0.81	0.0008	Storage Tank
5	Kannegala	27000102901900M1	Honnegowdanahalli Vadagatte Tank	MI Tank	23.42	160000	0.16	0.0002	Storage Tank
6	Kannegala	27000102901100M1	Beerambadi Kempusagara Tank	MI Tank	49.79	1270000	1.27	0.0013	Storage Tank
7	Raghavapura	27000102892000M1	Raghavapura Tank	MI Tank	51.41	1030000	1.03	0.0010	Storage Tank
8	Baragi	27000102893800M1	Baragi Tank	MI Tank	34.00	610000	0.61	0.0006	Storage Tank
9	Nenekatte	27000102893900M1	Devalapura Tank	MI Tank	32.38	1090000	1.09	0.0011	Storage Tank
10	Horeyala	27000102889800M1	Hosapura Tank (East)	MI Tank	39.00	430000	0.43	0.0004	Storage Tank
11	Horeyala	27000102889800M2	Hospura Tank(West)	MI Tank	30.00	690000	0.69	0.0007	Storage Tank
12	Kotekere	27000102889900M2	Kurubanahundi Tank	MI Tank	33.00	520000	0.52	0.0005	Storage Tank
13	Shivapura	27000102904200M1	Kalligowdanahalli Ogaragatte Tank	MI Tank	17.00	340000	0.34	0.0003	Storage Tank

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14	Padaguru	27000102897600M1	Muduguru Tank	MI Tank	42.00	380000	0.38	0.0004	Storage Tank
15	Kodsoge	27000102899500M1	Somanapura Tank	MI Tank	15.83	260000	0.26	0.0003	Storage Tank
16	Therakanambi	27000102899000M1	Uttur Tank	MI Tank	19.83	230000	0.23	0.0002	Storage Tank
17	Kodsoge	27000102199000M1	Hullanahuli kere Tank	MI Tank	15.03	190000	0.19	0.0002	Storage Tank
18	Annuru	27000102896300M1	Vijayapura Amani Tank	MI Tank	129.00	1150000	1.15	0.0012	Storage Tank
19	Kodsoge	27000102903500M1	Vadayanapura Basavanakatte Tank	MI Tank	65.50	640000	0.64	0.0006	Storage Tank
20	Halathru	27000102904500M1	Manchahalli Tank	MI Tank	8.90	120000	0.12	0.0001	Storage Tank
21	Kannegal	27000102902100M1	Kallipura Tank	MI Tank	6.14	0	0.00	0.0000	Storage Tank
22	Baragi	27000102909100M1	Mantipura Tank	MI Tank	39.00	1010000	1.01	0.0010	Storage Tank
23	Bommalapura	27000102910100M1	Bommalapura Tank	MI Tank	0.00	240000	0.24	0.0002	Storage Tank
24	Kannegala	27000104910100M1	Gopalapura Tank	MI Tank	0.00	0.	0.00	0.0000	Storage Tank
			TOTAL		**975.33**	**21580000**	**21.58**	**0.0216**	

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	YELANDUR TALUK								
1	Gowdahalli	27000302925200M2	Gowdahalli Tank	MI Tank	60.70	2240000	2.24	0.0022	Storage Tank
2	Gumballi	27000302926300M1	Hosahalli Tank	MI Tank	68.80	3240000	3.24	0.0032	Storage Tank
3	Gowdahalli	27000302924900M1	Alkere Agrahara Tank	MI Tank	29.14	210000	0.21	0.0002	Storage Tank
4	Gowdahalli	27000302925200M1	Gowdahalli Hale Tank	MI Tank	60.72	670000	0.67	0.0007	Storage Tank
5	Gumballi	27000302926400M1	Komaranapura Tank	MI Tank	20.23	420000	0.42	0.0004	Storage Tank
6	Yeriyuru	27000302905800M1	Ganaganuru Tank	MI Tank	30.35	260000	0.26	0.0003	Storage Tank
			TOTAL		**269.94**	**7040000**	**7.04**	**0.0070**	

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KOLLEGALA TALUK									
1	Lokkanahalli	27000402933100M1	Baralakombihalla Tank	MI Tank	2.30	130000	0.13	0.0001	Storage Tank
2	Dinnalli	27000402935100M1	Dinnahalli Tank	MI Tank	9.30	250000	0.25	0.0003	Storage Tank
3	Bandalli	27000402936100M1	Halagapura Tank	MI Tank	26.57	1300000	1.30	0.0013	Storage Tank
4	Siddayyanapura	27000402930400M1	Kotekere Tank	MI Tank	37.50	130000	0.13	0.0001	Storage Tank
5	Kothnuru	27000403930400M1	Balagunase Tank	MI Tank	4.85	0	0.00	0.0000	Storage Tank
6	Kothanuru	27000803930400M1	Lingammana Tank	MI Tank	17.18	8880000	8.88	0.0089	Storage Tank
7	Kothanuru	27000804930400M1	Kothanuru Tank	MI Tank	34.90	840000	0.84	0.0008	Storage Tank
8	Hugyam	27000402933700M1	Minnattuhalla Tank	MI Tank	88.00	3660000	3.66	0.0037	Storage Tank
9	Gopinathamm	27000402931000M1	Gopinatham Tank	MI Tank	45.00	2000000	2.00	0.0020	Storage Tank
10	Bandalli	27000406931000M1	Managana Tank	MI Tank	26.75	850000	0.85	0.0009	Storage Tank
11	Mangala	27000406731000M1	Ramanagudda Tank	MI Tank	40.43	990000	0.99	0.0010	Storage Tank
12	Lokkanahalli	27000402933100M2	Koulihalla Tank	MI Tank	5.79	490000	0.49	0.0005	Storage Tank
13	Martalli	27000402935300M1	Martalli Tank	MI Tank	23.71	330000	0.33	0.0003	Storage Tank
14	Kuratti hosur	27000402934300M1	Kuratti Hosur Tank	MI Tank	9.56	130000	0.13	0.0001	Storage Tank
				Total	**371.84**	**19980000**	**19.98**	**0.0200**	

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PICKUPS									
1	Punajanuru	-	Punajanuru pickup	M.I Pickup	132.00	-	0.06	0.0001	Pickup
2	Halahalli	-	Halahalli pickup	M.I Pickup	151.80	-	0.07	0.0001	Pickup
3	Ajjipura	-	Ajjipura Pickup	M.I Pickup	132.00	-	0.06	0.0001	Pickup
4	Dommanagadde	-	Dommanagadde Pickup	M.I Pickup	181.00	-	0.08	0.0001	Pickup
5	Surapura	-	Surapura Pickup	M.I Pickup	121.00	-	0.05	0.0001	Pickup
6	Andipalya	-	Andipalya Pickup	M.I Pickup	67.00	-	0.03	0.0000	Pickup
7	Gundimala	-	Gundimala Pickup	M.I Pickup	45.00	-	0.02	0.0000	Pickup
8	Maskathi	-	Maskathi Pickup	M.I Pickup	91.00	-	0.04	0.0000	Pickup
9	Konnerikombu	-	Konnerikombu Pickup	M.I Pickup	45.00	-	0.02	0.0000	Pickup
10	Kothanuru	-	Kothanuru Pickup	M.I Pickup	45.00	-	0.02	0.0000	Pickup
11	Sathegal handpost	-	Jagirdar Pickup	M.I Pickup	204.00	-	0.09	0.0001	Pickup
12	Gundapura	-	Uduthore halla Pickup	M.I Pickup	324.00	-	0.14	0.0001	Pickup
13	Lokkanahalli	-	Jadethade halla Pickup	M.I Pickup	151.00	-	0.07	0.0001	Pickup
				Total	**1689.80**	**-**	**0.75**	**0.0008**	

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LIFT IRRIGATION SCHEMES

LIFT IRRIGATION SCHEMES									
15	Yadakuriya	-	Yadakuriya LIS	M.I,LIS	145.00	-	0.06	0.0001	Lift Irrigation
16	Shivanasamudra	-	Shivanasmudra LIS	M.I,LIS	88.00	-	0.04	0.0000	Lift Irrigation
17	Danagere	-	Danagere LIS	M.I,LIS	122.00	-	0.05	0.0001	Lift Irrigation
18	Gundal	-	Gundal LIS	M.I,LIS	120.00	-	0.05	0.0001	Lift Irrigation
		-		**TOTAL**	**475.00**	-	**0.20**	0.0002	
		-		**Grand Total Rs.**	**5004.51**	-	**73.36**	**0.0734**	

5.4.2 Strategic Action Plan of Minor Irrigation Department

Sl. no.	Name of the Block / District	Concerned Ministry / Department	Component	Name of Block	Activity	Total Number / Capacity (Cum)	Command Area / Irrigation Potential (Ha)	Period of Implementation (5/7 Years)	Estimated Cost Rs. In Lakhs
1	Chamarajanagara Taluk	Department of Minor Irrigation	1) PMKSY (AIBP)	Chamarajanagara Taluk	-	-	-	-	-
			2) PMKSY (Har Khet ko Paani)		Disilting Tank bed, Improvements to Distribution from source to the farm	Silt= 5957000.00 C.C.Lining-1000.00	95.00	5 years	14650
			3) PMKSY (WaterShed)		Improvemnets to Feeder Channals	300000	-		
			4) PMKSY (Per Drop more crop)		-	-	-	-	
2	Gundluptete Taluk	Department of Minor Irrigation	1) PMKSY (AIBP)	Gundluptete Taluk	-	-	-	-	
			2) PMKSY (Har Khet ko Paani)		Disilting Tank bed, Improvements to Distribution from source to the farm	Silt= 6474000.00 C.C.Lining-1200.00	120.00	5 years	11300
			3) PMKSY (Water Shed)		Improvemnets to Feeder Channals	375000	-		
			4) PMKSY (More Crop, Per Drop)		-				

Continued…

3	**Yelandur Taluk**	**Department of Minor Irrigation**	1) PMKSY (AIBP)	**Yelandur Taluk**	-	-	-	-	-
			2) PMKSY (Har Khet ko Paani)		Disilting Tank bed, Improvements to Distribution from source to the farm	Silt= 2112000.00 C.C.Lining -300.00	30.00	5 years	2900
			3) PMKSY (Water Shed)		Improvemnets to Feeder Channals	100000.00	-		
			4) PMKSY (Per Drop More Crop)		-				
4	**Kollegal Taluk**	**Department of Minor Irrigation**	1) PMKSY (AIBP)	**Kollegal Taluk**	-	-	-	-	-
			2) PMKSY (Har Khet ko Paani)		Disilting Tank bed, Improvements to Distribution from source to the farm	Silt= 5994000.00 C.C.Lining -700.00	30.00	5 years	11150
			3) PMKSY (Water Shed)		Improvemnets to Feeder Channals	200000.00	-		
			4) PMKSY (Per Drop More Crop)		-	-	-	-	-
						TOTAL	**275.00**		**40000**

5.5. BRIEF REPORT AND STRATERGIC ACTION PLAN OF PACHAYATH RAJ ENGINEERING DEPARTMENT (Roads and Building division)

Chamarajanagara district is a border district of Karnataka State. The District have the agricultural activity mainly based on the natural rainfall.The District have 4 taluks Namely Chamarajanagar, Gudlpet, Kollegal and Yelandur. Totally there are 89 Small Tanks having atchkut of less than 40 hectare. Due to shortfall in rain the above tanks were not filled during the previous years no water is allowed for irrigation purpose, hence the district facing the drought problem.

The Government of India now launching program called PMKSY, Under this scheme P.R.E.D. is submitting Action plan for next 5 years for 89 tanks with an estimated cost of Rs. 3690.00 lakhs for taking up of desilting of tanks, clearance of feeder canals, sub canals and atchkutvalleys there by improving the Water Storage Capacity of the tanks and also improvement of weirs, down stream canal, repairs to tanks sluice are also considered to future Irrigation of 3830 acres of land and mainly improving the ground water table. By this scheme bring down the drought problem.

Table: 5.5.1. Details of PRED tanks – Chamarajanagara Taluk

Sl. No.	Name of the Tank	Taluk	Village	Block/GP	Total Atchkut in Ha.	Length of Bund in metres	Length of weir in meters	Capacity in MCFT	Tank Type
1	Gowrikere	Chamarajnagar	Bendaravadi	Heggotara	22.50	950.00	125.00	17.62	Non Perineal
2	Shivaganga		Mariyala	Badanaguppe	23.65	300.00	80.00	3.04	Non Perineal
3	Dodda kere		Vaddagalpura	Honnahalli	39.60	346.00	80.00	3.60	Non Perineal
4	Vaddagalpurada hundi kere		Vaddagalpuradahundi	Honnahalli	11.40	286.00	60.00	0.06	Non Perineal
5	Dodda kere		Arakalavadi	Arakalavadi	39.00	507.00	125.00	9.85	Non Perineal
6	Solekere		Kilagere	Yaraganahalli	18.00	705.00	50.00	15.56	Non Perineal
7	Melur kere		Melur	Badanaguppe	34.20	725.00	42.00	26.78	Non Perineal
8	Anemaduvinakere		Nanjedevanapura	Nanjedevanapura	21.20	732.00	150.00	3.34	Non Perineal
9	Gijaganakatte		Thammadahally	Nanjedevanapura	16.20	435.00	20.00	1.21	Non Perineal
10	Puttanapura kere		Puttanapura	Nagavalli	39.24	620.00	60.00	7.30	Non Perineal
11	Jannur kere		Jannur	Bagali	35.92	715.00	82.00	11.00	Non Perineal
12	Bilikere		Honganur	Honganuru	27.23	1085.00	92.00	9.50	Non Perineal
13	Gangavadi kere		Gangavadi	Irasavadi	24.91	860.00	20.00	2.40	Non Perineal
14	Boodambally kere		Boodambally	Gulipura	24.91	627.00	30.00	6.60	Non Perineal
15	H.Mookahally kere		H.Mookahally	Masanapura	8.94	1140.00	40.00	8.20	Non Perineal
16	Kalasetti kere		Belavatha	Honganuru	6.51	415.00	20.00	4.20	Non Perineal

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17	Komatikatte	Chamarajnagar	Muntipalya	Honganuru	6.09	606.00	30.00	3.70	Non Perineal
18	Ankashetti kere		Muntipalya	Honganuru	7.79	272.00	12.00	0.90	Non Perineal
19	Yaraganahallikere		Yaraganahalli	Yaraganahalli	5.20	300.00	20.00	2.61	Non Perineal
20	Yadiyurahalla kere		Yadiyurahalla	Mangala	3.72	1242.00	10.00	11.00	Non Perineal
21	Masanapura kere		Bhogapura	Bhogapura	10.00	352.00	40.00	0.85	Non Perineal
22	Bokkepura Murutubinakere		Bokkepura	Honnahalli	6.00	250.00	20.00	0.08	Non Perineal
23	Kothalavadi kere		Kothalavadi	Kothalavadi	10.00	600.00	30.00	0.22	Non Perineal
24	Devalapura kere		Devalapura	Kothalavadi	40.48	525.00	30.00	12.60	Non Perineal
25	Bisalavadi kere		Bisalavadi	Bisalavadi	8.00	300.00	20.00	0.90	Non Perineal
26	Kalanahundi kere		Kalanahundi	Najadevanapura	40.00	1200.00	125.00	27.99	Non Perineal
27	Basavapura kere		Basavapura	Bhogapura	4.10	180.00	20.00	0.25	Non Perineal
28	Bedarapura kere		Bedarapura	Badanaguppe	20.00	300.00	40.00	3.04	Non Perineal
		System Tank total			**554.79**	**16575.00**	**1473.00**	**194.40**	

Tabel: 5.5.1. (a) Details of PRED Tanks, Gundlupete taluk

SL .NO	Name of the Tank	Taluk	Village	Block GP	Total Atchkut in HA	Length of Bund in Meters	Length of Weir in Meter	Capacity in MCFT	Tank Type
1	Chikkati Kere	Gundlupet	Chikkati	Chikkati	-	435.00	20.00	7.00	Percolation
2	Belachalavadi kere		Belachalavadi	Begur	20.00	527.00	15.00	9.00	Percolation
3	Kotekere Kere		Kotekere	Kotekere	8.00	510.00	25.00	4.00	Percolation
4	Somahalli Kere		Somahalli	Somahalli	18.00	540.00	18.00	8.00	Percolation
5	Agathagowdanahally Hosakere		Agathagowdanahally	Agathagowdanahally	18.00	285.00	-	3.00	Percolation
6	Hulikere		Manchahally	Alathur	21.00	461.50	-	3.00	Percolation
7	Ingalavadi Kombadakatte		Ingalavadi	Bannithalapura	29.00	75.00	-	-	Percolation
8	Mudaguru Kere		Mudaguru	Padagur	-	75.00	-	-	Percolation
9	Hooradahalli Kere		Hooradahalli Kere	Padagur	23.00	75.00	7.50	-	Percolation
10	Ooramundina Kere		Beeamanabeedu	Beeamanabeedu	37.00	75.00	-	-	Percolation
11	Kallahalli picup		Kallahalli	Kabbahalli	23.00	30.00	15.00	-	Percolation
12	Malavalli Kere		Malavalli	Nenekatte	-	400.00	22.00	-	Percolation
13	Jadaiahnakere		Terakanambi	Terakanambi	-	978.00	-	2.90	Percolation
14	Tengina Katte		Terakanambi	Terakanambi	-	1194.00	20.00	0.03	Percolation
15	Channappanakatte		Terakanambi hundi	Terakanambi	-	75.00	-	0.08	Percolation
16	Kampanakatte		Terakanambi hundi	Terakanambi	0.00	98.50	15.00	0.04	Percolation
17	Vaddagere hirikatte		Vaddagere	Vaddagere	0.00	1021.00	18.00	2.54	Percolation

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18	Karakalamadahalli Kere	Gundlupet	Karakalamadahalli	Kodasoge	0.00	498.00	15.00	2.86	Percolation
19	Ramaianakatte		Upakara colony	Bommanahalli	0.00	90.00	-	0.04	Percolation
20	Ooramundina Kere		Yariyuru	Vaddagere	0.00	421.00	15.00	0.44	Percolation
21	Hattikatte		Daribegur	Kodasoge	0.00	302.00		0.42	Percolation
22	Hucchappanakatte		Daribegur	Kodasoge	0.00	98.50		0.10	Percolation
23	Hundikere		Yariyuru	Vaddagere	0.00	104.00	-	0.09	Percolation
24	Mavitalakatte		Yariyuru	Vaddagere	0.00	120.00	-	0.11	Percolation
25	Bachahalli Katte		Bachahalli	Bachahalli	0.00	312.00	-	0.38	Percolation
26	Harijanakatte		Bachahalli	Bachahalli	0.00	310.00	-	0.08	Percolation
27	Malligowdanakatte		Bachahalli	Bachahalli	0.00	104.00	-	0.21	Percolation
28	Ooramundina Kere (Belvadi)		Belavadi	Hundipura	0.00	209.00	-	0.32	Percolation
29	Honnappanakatte		Shattahalli	Alathur	0.00	150.00	18.00	0.10	Percolation
30	Ooramundina kere (Heggavadi)		Heggavadi	Vaddagere	0.00	156.00	15.00	0.04	Percolation
31	Gangikatte		Triyambakapura	Kealasur	0.00	98.00		0.05	Percolation
32	Jakkahally Kere		Jakkahally	Mangala	0.00	50.00	-	0.04	Percolation
33	Marigudi Kere		Mangala	Mangala	0.00	125.00	-	0.07	Percolation
34	Doddakere kere		Hangala	Hangala	0.00	512.00	20.00	4.24	Percolation
35	Kurubara katte		Hangala	Hangala	0.00	150.00	-	0.16	Percolation

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36	Hirikere		Hangala	Hangala	0.00	300.00	30.00	2.54	Percolation
37	Doddakere	Gundlupet	Devarahally	Kannegala	0.00	940.00	30.00	4.45	Percolation
38	Doddakere (Kannegala)		Kannegala	Kannegala	0.00	211.00	30.00	0.21	Percolation
39	Mahadeshwara Kere		Beramabadi	Beramabadi	0.00	230.00	10.00	0.74	Percolation
40	Madduraianakere		Madduru	Beramabadi	0.00	152.00	-	0.07	Percolation
41	Rayanakatte		Hongalli	Baragi	0.00	69.00	10.00	0.05	Percolation
42	Mukhahally kere		Mukhahally	Mukhahally	0.00	340.00	22.00	0.32	Percolation
43	Ooramundinakere (Puttanapura)		Puttanapura	Puttanapura	0.00	116.00	10.00	0.40	Percolation
44	Vijayapura amani chikka kere		Gundlupet	-	-	-	-	-	Percolation
45	Balachavadi Ooramundina kere		Balachavadi	Balachavadi	-	90.00	-	-	Percolation
46	Mudagur Ooramundina Kere		Mudagur	Padagur	0.00	75.00	7.50	-	Percolation
47	Manchally katte		Manchally	Alathur	0.00	75.00	-	-	Percolation
				Total	**197.00**	**12827.50**	**388.00**	**51.12**	

Table 5.5.1. (b) Details of PRED tanks in Kollegala taluk

SL .NO	Name of the Tank	Taluk	Village	Block GP	Total Atchkut in HA	Length of Bund in Meters	Length of Weir in Meter	Capacity in MCFT	Tank Type
1	Kungalli	Kollegal	Kungalli	Kunglli	254.00	826.00	31.00	0.08	Percolation
2	Kadagery lake		Uganiya	Danagere	240.00	422.00	9.00	0.08	Percolation
				Total	**494**			**0.16**	

Table: 5.5.1. (c) Details of PRED tanks in Yelandur Taluk

Sl No	Name of the Tank	Taluk	Village	Block/GP	Total Atchkut in Ha.	Length of Bund in metres	Length of weir in metres	Capacity in MCFT	Tank Type
1	Gowdahalli Tank	Yelandur	Gowdahalli	Gowdahalli	32.15	760.00	16.00	31.70	Non Perineal
2	Bannisarige Tank		Bannisarige	Gowdahalli	13.92	980.00	12.00	15.90	Non Perineal
3	Yaragamballi Tank		Yaragamballi	Yaragamballi	48.50	1800.00	16.00	10.17	Non Perineal
4	Dasanahundi Tank		Dasanahundi	Yaragamballi	33.25	1600.00	16.00	14.63	Non Perineal
5	Mellahalli Tank		Mellahalli	Duggahatti	41.00	950.00	16.00	5.13	Non Perineal
6	Ganiganur Tank		Ganiganur	Yariyuru	27.50	950.00	16.00	34.00	Non Perineal
7	Gumballi Krishnapurakere		Krishnapura	Gumballi	20.00	500.00	12.00	4.00	Non Perineal
8	Komaranapura Thammegowdana kere		Komaranapura	Gumballi	21.00	280.00	10.00	4.90	Non Perineal
9	Nayana Katte		Gumballi	Gumballi	10.00	150.00	6.00	1.00	Non Perineal
10	Boodithittu Kudlur kere		Boodithittu	Maddur	12.00	140.00	8.00	1.00	Non Perineal
11	Mellahalli Yangaiahanakere		Mellahalli	Duggahatti	12.00	130.00	10.00	0.90	Non Perineal
12	Duggahatti kere		Duggahatti	Duggahatti	15.00	350.00	12.00	4.90	Non Perineal
				Total	**286.32**	**8590.00**	**150.00**	**128.23**	

Table 5.5.2. Stratergic Action Plan of PRED- (Roads and Buildings)- Chamarajanagara Taluk

Sl.No.	Name of the Blocks/ sub district	Concerned Ministry Department	Component	Name of the Block	Activity	Total Number /capacity (cum)	Command Area /Irrigation Potential (Ha)	Period of Implementation (5/7 yrs)	Estimated cost Rs. In Lakhs
1	Chamarajnagar	RDPR	Tank	Gowrikere	Rivetment silt Removal, Bund Improvement, Feeder canal Waster weir	17.62	22.50	5 Years	50.00
2				Shivaganga		3.04	23.65	5 Years	50.00
3				Dodda kere		3.60	39.60	5 Years	45.00
4				Vaddagalpurada hundi kere		0.06	11.40	5 Years	55.00
5				Dodda kere		9.85	39.00	5 Years	40.00
6				Solekere		15.56	18.00	5 Years	30.00
7				Melur kere		26.78	34.20	5 Years	25.00
8				Anemaduvina kere		3.34	21.20	5 Years	55.00
9				Gijaganakatte		1.21	16.20	5 Years	45.00
10				Puttanapura kere		7.30	39.24	5 Years	50.00

Continued…..

11	Chamarajnagar	RDPR	Tank	Jannur kere	"	11.00	35.92	5 Years	50.00
12				Bilikere	"	9.50	27.23	5 Years	40.00
13				Gangavadi kere	"	2.40	24.91	5 Years	35.00
14				Boodambally kere	"	6.60	24.91	5 Years	50.00
15				H.Mookahally kere	"	8.20	8.94	5 Years	45.00
16				Kalasetti kere	"	4.20	6.51	5 Years	25.00
17				Komatikatte	"	3.70	6.09	5 Years	25.00
18				Ankashetti kere	"	0.90	7.79	5 Years	25.00
19				Yaraganahalli kere	"	2.61	5.20	5 Years	25.00
20				Yadiyurahalla kere	"	11.00	3.72	5 Years	30.00
21				Masanapura kere	"	0.85	10.00	5 Years	30.00
22				Bokkepura Murutubina kere	"	0.08	6.00	5 Years	45.00
23				Kothalavadi kere	"	0.22	10.00	5 Years	45.00
24				Devalapura kere	"	12.60	40.48	5 Years	30.00
25				Bisalavadi kere	"	0.90	8.00	5 Years	30.00
26				Kalanahundi kere	"	27.99	40.00	5 Years	45.00
27				Basavapura kere	"	0.25	4.10	5 Years	45.00
28				Bedarapura kere	"	3.04	20.00	5 Years	40.00
Total						**194.40**	**554.79**		**1105.00**

Table 5.5.2. (a) Stratergic Action Plan of PRED- (Roads and Buildings) - Gundlupete Taluk

SL .NO	Name of the Blocks/ district	Concerned Ministry/ Department	Component	Name of Block	Activity	Total Number/capacity (MCFT)	Command Area/Irrigation Potential (Ha)	Period of Implementation (5/7 yrs)	Estimated Cost Rs.in Lakhs
1	Gundlupet	RDPR	Tank	Chikkati Kere	Desilting, Bund improvement, repairs of WW & Sluice	7.00	20.00	5 Years	80.00
2				Belachalavadi kere	Desilting, Bund improvement, repairs of WW & Sluice	9.00	8.00	5 Years	50.00
3				Kotekere Kere	Desilting, Bund improvement, repairs of WW & Sluice	4.00	18.00	5 Years	50.00
4				Somahalli Kere	Desilting, Bund improvement, repairs of WW & Sluice	8.00	18.00	5 Years	80.00
5				Agathagowdanahally Hosakere	Desilting, Bund improvement, repairs of WW & Sluice	3.00	21.00	5 Years	50.00

Continued…..

6	Gundlupet	RDPR	Tank	Hulikere	Desilting, Bund improvement, repairs of WW & Sluice	3.00	29.00	5 Years	40.00
7				Ingalavadi Kombadakatte	Desilting, Bund improvement, repairs of WW & Sluice	-	-	5 Years	40.00
				Ingalavadi Kombadakatte	Desilting, Bund improvement, repairs of WW & Sluice	-	-	5 Years	40.00
8				Mudaguru Kere	Desilting, Bund improvement, repairs of WW & Sluice	-	23.00	5 Years	50.00
9				Hooradahali Kere	Desilting, Bund improvement, repairs of WW & Sluice	-	37.00	5 Years	45.00
10				Ooramundina Kere	Desilting, Bund improvement, repairs of WW & Sluice	-	23.00	5 Years	45.00
11				Kallahalli picup	Desilting, Bund improvement, repairs of WW & Sluice	-	-	5 Years	40.00
12				Malavalli Kere	Desilting, Bund improvement, repairs of WW & Sluice	-	-	5 Years	55.00
13				Jadaiahnakere	Desilting, Bund improvement, repairs of WW & Sluice	2.90	-	5 Years	40.00

Continued…..

14	Gundlupet	RDPR	Tank	Tengina Katte	Desilting, Bund improvement, repairs of WW & Sluice	0.03	-	5 Years	65.00
15				Channappanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.08	0.00	5 Years	40.00
16				Kampanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.04	0.00	5 Years	35.00
17				Vaddagere hirikatte	Desilting, Bund improvement, repairs of WW & Sluice	2.54	0.00	5 Years	55.00
18				Karakalamadahalli Kere	Desilting, Bund improvement, repairs of WW & Sluice	2.86	0.00	5 Years	50.00
19				Ramaianakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.04	0.00	5 Years	40.00
20				Ooramundina Kere	Desilting, Bund improvement, repairs of WW & Sluice	0.44	0.00	5 Years	40.00

Continued...

21	Gundlupet	RDPR	Tank	Hattikatte	Desilting, Bund improvement, repairs of WW & Sluice	0.42	0.00	5 Years	20.00
22				Hucchappanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.10	0.00	5 Years	40.00
23				Hundikere	Desilting, Bund improvement, repairs of WW & Sluice	0.09	0.00	5 Years	20.00
24				Mavitalakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.11	0.00	5 Years	25.00
25				Bachahally Katte	Desilting, Bund improvement, repairs of WW & Sluice	0.38	0.00	5 Years	40.00
26				Harijanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.08	0.00	5 Years	20.00

Continued...

27				Malligowdanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.21	0.00	5 Years	35.00
28	Gundlupet	RDPR	Tank	Ooramundina Kere (Belvadi)	Desilting, Bund improvement, repairs of WW & Sluice	0.32	0.00	5 Years	45.00
29				Honnappanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.10	0.00	5 Years	40.00
30				Ooramundina kere (Heggavadi)	Desilting, Bund improvement, repairs of WW & Sluice	0.04	0.00	5 Years	35.00
31				Gangikatte	Desilting, Bund improvement, repairs of WW & Sluice	0.05	0.00	5 Years	30.00
32				Jakkahally Kere	Desilting, Bund improvement, repairs of WW & Sluice	0.04	0.00	5 Years	25.00
33				Marigudi Kere	Desilting, Bund improvement, repairs of WW & Sluice	0.07	0.00	5 Years	20.00
34				Doddakere kere	Desilting, Bund improvement, repairs of WW & Sluice	4.24	0.00	5 Years	75.00

Continued…..

35	Gundlupet	RDPR	Tank	Kurubara katte	Desilting, Bund improvement, repairs of WW & Sluice	0.16	0.00	5 Years	55.00
36				Hirikere	Desilting, Bund improvement, repairs of WW & Sluice	2.54	0.00	5 Years	75.00
37				Doddakere	Desilting, Bund improvement, repairs of WW & Sluice	4.45	0.00	5 Years	75.00
38				Doddakere (Kannegala)	Desilting, Bund improvement, repairs of WW & Sluice	0.21	0.00	5 Years	50.00
39				Mahadeshwara Kere	Desilting, Bund improvement, repairs of WW &Sluice	0.74	0.00	5 Years	45.00
40				Madduraianakere	Desilting, Bund improvement, repairs of WW & Sluice	0.07	0.00	5 Years	50.00
41				Rayanakatte	Desilting, Bund improvement, repairs of WW & Sluice	0.05	0.00	5 Years	45.00
42				Mukhahally kere	Desilting, Bund improvement, repairs of WW & Sluice	0.32	0.00	5 Years	45.00

Continued…..

43	Gundlupet	RDPR	Tank	Ooramundinakere (Puttanapura)	Desilting, Bund improvement, repairs of WW & Sluice	0.40	0.00	5 Years	40.00
44				Vijayapura amani chikka kere	-	-	0.00	-	-
45				Balachavadi Ooramundina kere	Desilting, Bund improvement	-	0.00	5 Years	20.00
46				Mudagur Ooramundina Kere	Desilting, Bund improvement	-	0.00	5 Years	25.00
47				Manchally katte	Desilting, Bund improvement	-	0.00	5 Years	20.00
					Total	**58.12**	**197.00**		**2005.00**

5.5.2. (b) Stratergic Action Plan of PRED- (Roads and Buildings)- Kollegala Taluk

SL NO	Name of the Blocks/ district	Concerned Ministry/ Department	Component	Name of Block	Activity	Total Number/capacity (MCFT)	Command Area/ Irrigation Potential (Ha)	Period of Implementation (5/7 yrs)	Estimated Cost Rs.in Lakhs
1	Kollegal	RDPR	Tank	Kungalli	canal lining,Pitching,Desiltting, Bund strengthering	0.08	10	5 Years	170.00
2				Uganiya	canal lining,Pitching,Desiltting, Bund strengthering	0.08	10	4 Years	120.00
					Total	**0.16**	**20.00**		**290.00**

5.5.2. (c) Stratergic Action Plan of PRED- (Roads and Buildings) –Yelandur Taluk

Sl No	Name of the Block / sub district	Concerned Ministry/ Department	Component	Name of the Block	Activity	Total Number/ capacity (mcft)	Command Area / Irrigation potential (Ha)	Period of Implementation (5/7yrs)	Estimated cost Rs. In lakhs.
1	Yelandur	RDPR	Tank	Dasanahundi Tank	Revetment, Silt Removal	14.63	33.25	5 Years	25.00
2				Mellahalli Tank	Revetment, Silt Removal	5.13	41.00	5 Years	25.00
3				Gowdahally Tank	Bund Improvement, Silt Removal	31.70	32.15	5 Years	25.00
4				Bannisarige Tank	Bund Improvement, Silt Removal	15.90	13.92	5 Years	25.00
5				Yaragamballi Tank	Bund Improvement, Silt Removal	10.17	48.50	5 Years	30.00
6				Ganiganur Tank	Bund Improvement, Silt Removal	34.00	27.50	5 Years	30.00
7				Gumballi Krishnapurakere	Bund Improvement, Silt Removal	4.00	20.00	5 Years	20.00
8				Komaranapura Thammegowdana kere	Bund Improvement, Silt Removal	4.90	21.00	5 Years	20.00

Continued…..

9	Yelandur	RDPR	Tank	Nayana Katte	Bund Improvement, Silt Removal	1.00	10.00	5 Years	15.00
10				Boodithittu Kudlur kere	Bund Improvement, Silt Removal	1.00	12.00	5 Years	15.00
11				Mellahally Yangaiahanakere	Bund Improvement, Silt Removal	0.90	12.00	5 Years	20.00
12				Duggahatti kere	Bund Improvement, Silt Removal	4.90	15.00	5 Years	40.00
				Total		**128.23**	**286.32**		**290.00**
						380.91	**1058.11**		**3690.00**

5.6. STRATERGIC ACTION PLAN OF

DEPARTMENT OF AGRICULTURE: WATERSHED ACTIVITIES

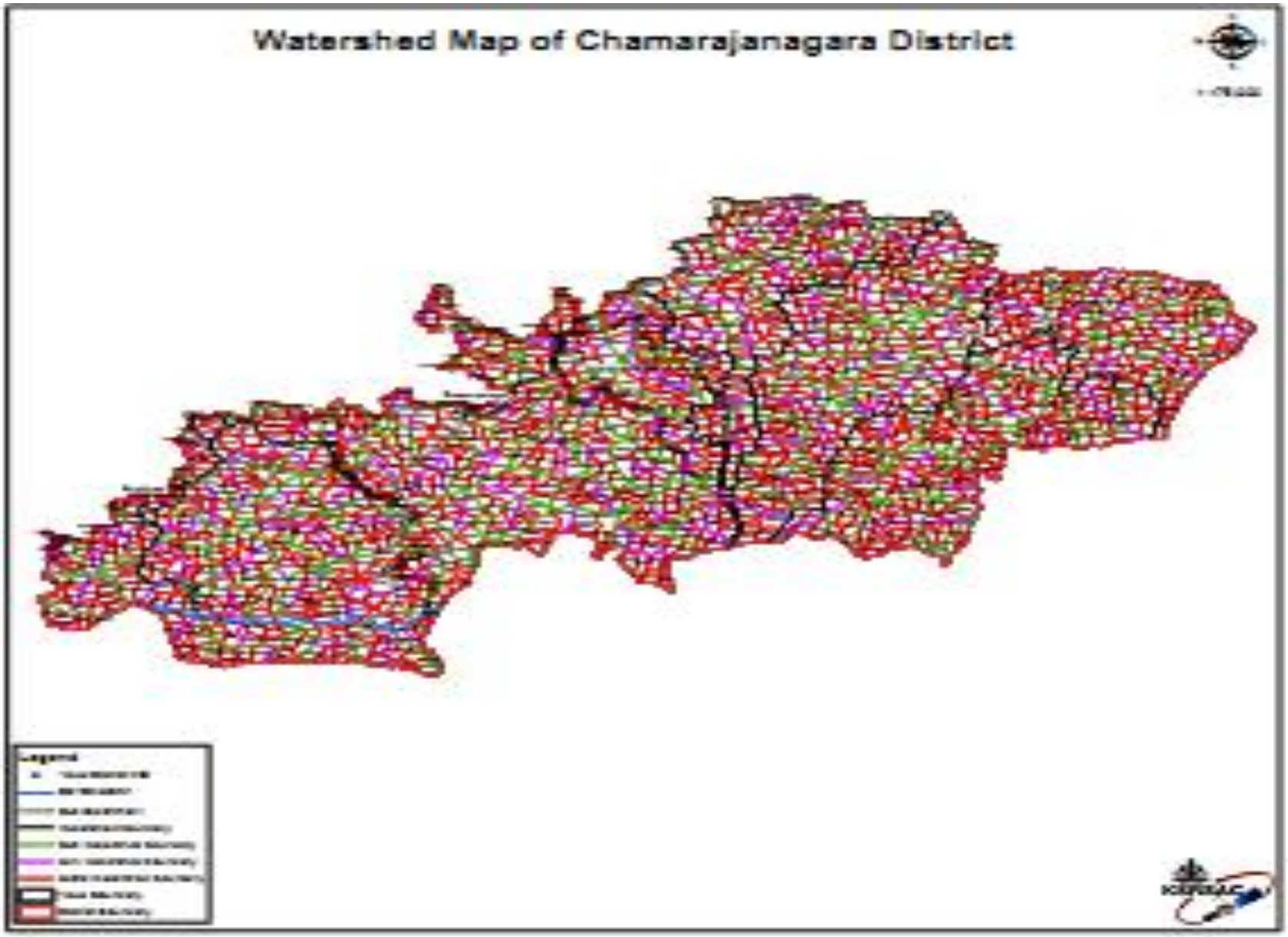
The total geographical area of the District is 5, 69,901H a, out of this it has been estimated that 3,02,287.31 ha. is available for various watershed activities. Since inception of watershed programmes an area of 22888.19 has been treated under various watershed programmes including on going works it has been planned to develop 51,469.68 Ha. of area in the coming years. Area remaining to be treated is 2, 27,929.44Ha.

Out of this untreated area of 2, 27,929.44ha, 97500.00 Ha can be developed on integrated watershed approach by existing watershed programmes in the proposed Perspective plan and the remaining area of 130429.44 ha has to be developed periodically by many other schemes.

The different activities under watershed development to be carried out are Nala revetment, Nala bund, Check Dam, Farm pond, Recharge pit, Mini percolation Tank, Boulder checks, Rubble Checks, Rock fill Dams, Diversion Channel, Water ways, Trench cum bunding etc under land development and water harvesting Activities.

Bund Planting, Agro forestry, Farm Forestry, Block Plantation are the other activities under forestry programme of watershed development, Whereas kitchen Garden and dry land Horticulture are the activities to be taken up under Horticulture sector. In addition to this, animal husbandry and Fisheries sectors are also supported for sustainable development.

Map: 5.6. INDEX MAP OF MICRO WATERSHEDS OF CHAMARAJANAGAR DISTRICT



Pic: 5.6. (a) Construction of Check Dam across drainage lines

Pic: 5.6. (b) Construction of Farm Pond for Harvesting Rainwater

Pic: 5.6. (c) Insitu Rainwater Conservation through Trench cum Bunding

Pic: 5.6. (d) Construction of Nalabund across Nala at Downstream

Pic: 5.6. (e) Raising of Forest and Horticulture Seedlings for planting in treated areas of

Pic: 5.6. (f) Promotion of Dryland Horticulture

Pic 5.6. (g) Promotion of Agro Forestry in Treated

Pic 5.6. (h) IEC Activities



Pic 5.6. (i) Farmers Tour


Table: 5.6.1 Starategic Action Plan of Watershed Activities (Agriculture Department) District Abstract

Sl. No	Name of the Activities	Units	Total Activities planed		Year wise Activities Planed											
					2016-17		2017-18		2018-19		2019-2020		2020-21		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	Administrative Cost		-	1,846.34	-	258.49	-	313.88	-	646.22	-	332.34	-	295.41	-	1,846.34
II	Soil and Water Conservation															
1)	Trench Cum Bund	ha	70,100	11,865.00	9,814	1,661.10	11,917	2,017.05	24,535	4,152.75	12,618	2,135.70	11,216	1,898.40	70,100	11,865.00
2)	Check Dam	Nos.	575	2,875.00	81	402.50	98	488.75	201	1,006.25	104	517.50	92	460.00	575	2,875.00
3)	Nala Bund	Nos.	90	450.00	-	-	-	-	45	225.00	45	225.00	-	-	90	450.00
4)	Percolation Tank	Nos.	35	175.00	-	-	9	43.75	18	87.50	9	43.75	-	-	35	175.00
5)	Farm Pond	Nos.	6,160	3,916.00	862	548.24	1,047	665.72	2,156	1,370.60	1,109	704.88	986	626.56	6,160	3,916.00
6)	Gokatte (Tank Development)	Nos.	455	2,275.00	-	-	91	455.00	273	1,365.00	91	455.00	-	-	455	2,275.00
7)	Mini percolation Tank (MPT)	Nos.	139	350.00	-	-	-	-	70	175.00	70	175.00	-	-	139	350.00
8)	BC/ RC	Nos.	1,560	69.00	218	9.66	265	11.73	546	24.15	281	12.42	250	11.04	1,560	69.00
9)	Rock filled Dam	Nos.	121	138.25	17	19.36	21	23.50	42	48.39	22	24.89	19	22.12	121	138.25
10	Recharge Pit	Nos.	1,525	762.50	-	-	305	152.50	915	457.50	305	152.50	-	-	1,525	762.50

Continued…..

11)	**Diversional Chanal**	**Mtr**	5,000	12.00	700	1.68	850	2.04	1,750	4.20	900	2.16	800	1.92	5,000	12.00
12)	**Water Ways**	**Mtr**	27,000	64.00	3,780	8.96	4,590	10.88	9,450	22.40	4,860	11.52	4,320	10.24	27,000	64.00
13)	**Nala revetment**	**Mtr**	12,500	127.50	-	-	2,500	25.50	7,500	76.50	2,500	25.50	-	-	12,500	127.50
14)	**Others**		-	1,500.32	-	210.04	-	255.05	-	525.11	-	270.06	-	240.05	-	1,500.32
III	**Dry land Horticulture**	**ha**	30,240	3,991.65	4,234	558.83	5,141	678.58	10,584	1,397.08	5,443	718.50	4,838	638.66	30,240	3,991.65
IV	**Agro Forestry (Including Nursery & Other)**	**ha**	45,320	3,430.96	6,345	480.33	7,704	583.26	15,862	1,200.84	8,158	617.57	7,251	548.95	45,320	3,430.96
V	**Animal Husbandry (Livestock)**	**ha**	10,990	461.59	-	-	2,198	92.32	6,594	276.95	2,198	92.32	-	-	10,990	461.59
Total			**1,56,650**	**34,310.11**	**20,392**	**4,159.19**	**26,960**	**5,819.52**	**57,575**	**13,061.43**	**28,417**	**6,516.60**	**23,306**	**4,753.36**	**1,56,650**	**34,310.11**

Table: 5.6.1 (a) Starategic Action Plan of Watershed Activities (Agriculture Department)

Taluk: Chamarajanagara

Sl. No	Name of the Activities	Units	Total Activities plane		Year wise Activities Pla											
					2016-17		2017-18		2018-19		2019-2020		2020-21		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	Administrative Cost		-	620.82		86.91		105.54		217.29		111.75		99.33	-	620.82
II	Soil and Water Conservation :-															
1)	Trench Cum Bund	ha	25,000	5,000.00	3,500	700.00	4,250	850.00	8,750	1,750.00	4,500	900.00	4,000	800.00	25,000	5,000.00
2)	Check Dam	Nos.	135	675.00	19	94.50	23	114.75	47	236.25	24	121.50	22	108.00	135	675.00
3)	Nala Bund	Nos.	45	225.00	-	-	-	-	23	112.50	23	112.50	-	-	45	225.00
4)	Perculation Tank	Nos.	12	60.00	-	-	3	15.00	6	30.00	3	15.00	-	-	12	60.00
5)	Farm Pond	Nos.	1,750	875.00	245	122.50	298	148.75	613	306.25	315	157.50	280	140.00	1,750	875.00
6)	Gokatte (Tanka Dvpt)	Nos.	85	425.00	-	-	17	85.00	51	255.00	17	85.00	-	-	85	425.00
7)	Mini Perculation Tank (MPT)	Nos.	10	50.00	-	-	-	-	5	25.00	5	25.00	-	-	10	50.00
8)	BC/ RC	Nos.	300	6.00	42	0.84	51	1.02	105	2.10	54	1.08	48	0.96	300	6.00

Continued…..

9)	Rockfilled Dam	Nos.	65	81.25	9	11.38	11	13.81	23	28.44	12	14.63	10	13.00	65	81.25
10)	Recharge Pit	Nos.	500	250.00	-	-	100	50.00	300	150.00	100	50.00	-	-	500	250.00
11)	Diversional Chanal	Mtr	1,000	3.00	140	0.42	170	0.51	350	1.05	180	0.54	160	0.48	1,000	3.00
12)	Water Ways	Mtr	10,000	30.00	1,400	4.20	1,700	5.10	3,500	10.50	1,800	5.40	1,600	4.80	10,000	30.00
13)	Nala rivitment	Mtr	8,000	80.00	-	-	1,600	16.00	4,800	48.00	1,600	16.00	-	-	8,000	80.00
14)	Others			494.57	-	69.24	-	84.08	-	173.10	-	89.02	-	79.13	-	494.57
III	Dry land Horticulture	ha	9,720	1,283.04	1,361	179.63	1,652	218.12	3,402	449.06	1,750	230.95	1,555	205.29	9,720	1,283.04
IV	Agro Forestry (Including Nursery & Other)	ha	13,688	1,035.80	1,916	145.01	2,327	176.09	4,791	362.53	2,464	186.44	2,190	165.73	13,688	1,035.80
V	Animal Husbandry (Livestock)	ha	3,695	155.21	-	-	739.07	31.04	2,217.21	93.12	739.07	31.04	-	-	3,695	155.21
Total		**ha**	**52,103**	**11,349.69**	**6,777**	**1,414.63**	**8,968**	**1,914.80**	**19,160**	**4,250.19**	**9,452**	**2,153.35**	**7,745**	**1,616.72**	**52,103**	**11,349.69**

Table: 5.6.1 (b) Starategic Action Plan of Watershed Activities (Agriculture Department)

Taluk: Gundlupet

Sl. No	Name of the Activities	Units	Total Activities plane		Year wise Activities Plane											
					2016-17		2017-18		2018-19		2019-2020		2020-21		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	Administrative Cost		-	578.72		81.02		98.38		202.55		104.17		92.60	-	578.72
II	Soil and Water Conservation :-															
1)	Trench Cum Bund	Ha	16,100	2,415.00	2,254	338.10	2,737	410.55	5,635	845.25	2,898	434.70	2,576	386.40	16,100	2,415.00
2)	Check Dam	Nos.	250	1,250.00	35	175.00	43	212.50	88	437.50	45	225.00	40	200.00	250	1,250.00
3)	Nala Bund	Nos.	20	100.00	-	-	-	-	10	50.00	10	50.00	-	-	20	100.00
4)	Perculation Tank	Nos.	15	75.00	-	-	4	18.75	8	37.50	4	18.75	-	-	15	75.00
5)	Farm Pond	Nos.	1,975	1,580.00	277	221.20	336	268.60	691	553.00	356	284.40	316	252.80	1,975	1,580.00
6)	Gokatte (Tanka Dvpt)	Nos.	250	1,250.00	-	-	50	250.00	150	750.00	50	250.00	-	-	250	1,250.00
7)	Mini Perculation Tank (MPT)	Nos.	115	230.00	-	-	-	-	58	115.00	58	115.00	-	-	115	230.00
8)	BC/ RC	Nos.	250	12.50	35	1.75	43	2.13	88	4.38	45	2.25	40	2.00	250	12.50
9)	Rockfilled Dam	Nos.	26	39.00	4	5.46	4	6.63	9	13.65	5	7.02	4	6.24	26	39.00
10)	Recharge Pit	Nos.	500	250.00	-	-	100	50.00	300	150.00	100	50.00	-	-	500	250.00

Continued…..

11)	**Diversional Chanal**	**Mtr**	2,000	5.00	280	0.70	340	0.85	700	1.75	360	0.90	320	0.80	2,000	5.00
12)	**Water Ways**	**Mtr**	10,000	20.00	1,400	2.80	1,700	3.40	3,500	7.00	1,800	3.60	1,600	3.20	10,000	20.00
13)	**Nala rivitment**	**Mtr**	500	7.50	-	-	100	1.50	300	4.50	100	1.50	-	-	500	7.50
14)	**Others**			470.28	-	65.84	-	79.95	-	164.60	-	84.65	-	75.24	-	470.28
15	**Dry land Horticulture**	**ha**	10,169	1,342.31	1,424	187.92	1,729	228.19	3,559	469.81	1,830	241.62	1,627	214.77	10,169	1,342.31
16	**Agro Forestry (Including Nursery & Other)**	**ha**	13,587	1,028.09	1,902	143.93	2,310	174.78	4,755	359.83	2,446	185.06	2,174	164.49	13,587	1,028.09
17	**Animal Husbandry (Livestock)**	**ha**	3,445	144.68	-	-	689	28.94	2,067	86.81	689	28.94	-	-	3,445	144.68
Total		**ha**	43,301	10,798.08	5,580	1,223.73	7,464	1,835.14	16,016	4,253.12	7,863	2,087.55	6,377	1,398.54	43,301	10,798.08

Table: 5.6.1 (c) Starategic Action Plan of Watershed Activities (Agriculture Department)
Taluk:Kollegala

Sl. No	Name of the Activities	Units	Total Activities plane		Year wise Activities Plane											
					2016-17		2017-18		2018-19		2019-2020		2020-21		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	Administrative Cost		-	576.88		80.76		98.07		201.91		103.84		92.30	-	576.88
II	Soil and Water Conservation :-															
1)	Trench Cum Bund	ha	27,000	4,050.00	3,780	567.00	4,590	688.50	9,450	1,417.50	4,860	729.00	4,320	648.00	27,000	4,050.00
2)	Check Dam	Nos.	175	875.00	25	122.50	30	148.75	61	306.25	32	157.50	28	140.00	175	875.00
3)	Nala Bund	Nos.	20	100.00	-	-	-	-	10	50.00	10	50.00	-	-	20	100.00
4)	Perculation Tank	Nos.	4	20.00	-	-	1	5.00	2	10.00	1	5.00	-	-	4	20.00
5)	Farm Pond	Nos.	2,160	1,296.00	302	181.44	367	220.32	756	453.60	389	233.28	346	207.36	2,160	1,296.00
6)	Gokatte (Tanka Dvpt)	Nos.	100	500.00	-	-	20	100.00	60	300.00	20	100.00	-	-	100	500.00
7)	Mini Perculation Tank (MPT)	Nos.	10	50.00	-	-	-	-	5	25.00	5	25.00	-	-	10	50.00
8)	BC/ RC	Nos.	1,000	50.00	140	7.00	170	8.50	350	17.50	180	9.00	160	8.00	1,000	50.00
9)	Rockfilled Dam	Nos.	10	6.00	1	0.84	2	1.02	4	2.10	2	1.08	2	0.96	10	6.00
10)	Recharge Pit	Nos.	500	250.00	-	-	100	50.00	300	150.00	100	50.00	-	-	500	250.00

Continued…..

11)	**Diversional Chanal**	**Mtr**	1,000	2.00	140	0.28	170	0.34	350	0.70	180	0.36	160	0.32	1,000	2.00
12)	**Water Ways**	**Mtr**	1,000	2.00	140	0.28	170	0.34	350	0.70	180	0.36	160	0.32	1,000	2.00
13)	**Nala rivitment**	**Mtr**	1,000	10.00	-	-	200	2.00	600	6.00	200	2.00	-	-	1,000	10.00
14)	**Otheras**			464.15	-	64.98	-	78.91	-	162.45	-	83.55	-	74.26	-	464.15
III	**Dry land Horticulture**	**ha**	9,140	1,206.48	1,280	168.91	1,554	205.10	3,199	422.27	1,645	217.17	1,462	193.04	9,140	1,206.48
IV	**Agro Forestry (Including Nursery & Other)**	**ha**	13,813	1,045.09	1,934	146.31	2,348	177.67	4,835	365.78	2,486	188.12	2,210	167.21	13,813	1,045.09
V	**Animal Husbandry (Livestock)**	**ha**	3,434	144.22	-	-	687	28.84	2,060	86.53	687	28.84	-	-	3,434	144.22
Total		**ha**	**53,387**	**10,647.82**	**6,993**	**1,340.30**	**9,179**	**1,813.36**	**19,544**	**3,978.29**	**9,678**	**1,984.09**	**7,993**	**1,531.78**	**53,387**	**10,647.82**

Table: 5.6.1(d) Starategic Action Plan of Watershed Activities (Agriculture Department)

Taluk: Yelandur

Sl. No	Name of the Activities	Units	Total Activities plane		Year wise Activities Plane											
					2016-17		2017-18		2018-19		2019-2020		2020-21		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
I	Administrative Cost		-	69.92		9.79		11.89		24.47		12.59		11.19	-	69.92
II	Soil and Water Conservation :-															
1)	Trench Cum Bund	ha	2,000	400.00	280	56.00	340	68.00	700	140.00	360	72.00	320	64.00	2,000	400.00
2)	Check Dam	Nos.	15	75.00	2	10.50	3	12.75	5	26.25	3	13.50	2	12.00	15	75.00
3)	Nala Bund	Nos.	5	25.00	-	-	-	-	3	12.50	3	12.50	-	-	5	25.00
4)	Perculation Tank	Nos.	4	20.00	-	-	1	5.00	2	10.00	1	5.00	-	-	4	20.00
5)	Farm Pond	Nos.	275	165.00	39	23.10	47	28.05	96	57.75	50	29.70	44	26.40	275	165.00
6)	Gokatte (Tanka Dvpt)	Nos.	20	100.00	-	-	4	20.00	12	60.00	4	20.00	-	-	20	100.00
7)	Mini Perculation Tank (MPT)	Nos.	4	20.00	-	-	-	-	2	10.00	2	10.00	-	-	4	20.00
8)	BC/ RC	Nos.	10	0.50	1	0.07	2	0.09	4	0.18	2	0.09	2	0.08	10	0.50
9)	Rockfilled Dam	Nos.	20	12.00	3	1.68	3	2.04	7	4.20	4	2.16	3	1.92	20	12.00
10)	Recharge Pit	Nos.	25	12.50	-	-	5	2.50	15	7.50	5	2.50	-	-	25	12.50

Continued…..

11)	**Diversional Chanal**	**Mtr**	1,000	2.00	140	0.28	170	0.34	350	0.70	180	0.36	160	0.32	1,000	2.00
12)	**Water Ways**	**Mtr**	6,000	12.00	840	1.68	1,020	2.04	2,100	4.20	1,080	2.16	960	1.92	6,000	12.00
13)	**Nala rivitment**	**Mtr**	3,000	30.00	-	-	600	6.00	1,800	18.00	600	6.00	-	-	3,000	30.00
14	**Others**			71.32	-	9.98	-	12.12	-	24.96	-	12.84	-	11.41	-	71.32
III	**Dry land Horticulture**	**ha**	1,211	159.82	170	22.37	206	27.17	424	55.94	218	28.77	194	25.57	1,211	159.82
IV	**Agro Forestry (Including Nursery & Other)**	**ha**	4,232	321.98	592	45.08	719	54.74	1,481	112.69	762	57.96	677	51.52	4,232	321.98
V	**Animal Husbandry (Livestock)**	**ha**	416	17.48	-	-	83	3.50	250	10.49	83	3.50	-	-	416	17.48
Total		**ha**	**7,859**	**1,514.52**	**1,042**	**180.54**	**1,348**	**256.22**	**2,855**	**579.83**	**1,423**	**291.61**	**1,191**	**206.33**	**7,859**	**1,514.52**

Tabel:5.6.2 Stratergic Action Plan of MI (Agri Dept) Dist Abstraction

Rs in Lakhs

Sl. No	YEAR	DPAP/NON DPAP	TALUK NAME	PROGRAMME	PHY	FIN	CROPS
1	2016-17	DPAP	Gundlupet	Portable Sprinkler	691	121.89	Maize, Ragi, pulses &Groundnut
		NON DPAP	Chamarajanagar	Portable Sprinkler	600	105.84	
			Kollegala	Portable Sprinkler	650	114.66	
			Yelandur	Portable Sprinkler	94	16.58	
Total				**Portable Sprinkler**	**2035**	**358.97**	
2	2017-18	DPAP	Gundlupet	Portable Sprinkler	724	127.71	
		NON DPAP	Chamarajanagar	Portable Sprinkler	550	97.02	
			Kollegala	Portable Sprinkler	640	112.90	
			Yelandur	Portable Sprinkler	90	15.88	
Total				**Portable Sprinkler**	**2004**	**353.51**	
3	2018-19	DPAP	Gundlupet	Portable Sprinkler	757	133.53	
		NON DPAP	Chamarajanagar	Portable Sprinkler	450	79.38	
			Kollegala	Portable Sprinkler	360	63.50	
			Yelandur	Portable Sprinkler	104	18.35	
Total				**Portable Sprinkler**	**1671**	**294.76**	
4	2019-20	DPAP	Gundlupet	Portable Sprinkler	790	139.36	
		NON DPAP	Chamarajanagar	Portable Sprinkler	400	70.56	
			Kollegala	Portable Sprinkler	380	67.03	
			Yelandur	Portable Sprinkler	108	19.05	
Total				**Portable Sprinkler**	**1678**	**296.00**	
5	2020-21	DPAP	Gundlupet	Portable Sprinkler	823	145.18	
		NON DPAP	Chamarajanagar	Portable Sprinkler	400	70.56	
			Kollegala	Portable Sprinkler	350	61.74	
			Yelandur	Portable Sprinkler	112	19.76	
Total				**Portable Sprinkler**	**1685**	**297.23**	
GRAND TOTAL					**9073**	**1600.48**	

Continued…..

Sl. No	YEAR	DPAP/NON DPAP	TALUK NAME	PROGRAMME	PHY	FIN	CROPS
1	2016-17	DPAP	Gundlupet	Drip System	4	3.60	Sugarcane & Cotton
		NON DPAP	Chamarajanagar	Drip System	60	54.00	
			Kollegala	Drip System	51	45.90	
			Yelandur	Drip System	20	18.00	
Total					**135**	**121.50**	
2	2017-18	DPAP	Gundlupet	Drip System	8	7.20	
		NON DPAP	Chamarajanagar	Drip System	63	56.70	
			Kollegala	Drip System	54	48.60	
			Yelandur	Drip System	25	22.50	
Total					**150**	**135.00**	
3	2018-19	DPAP	Gundlupet	Drip System	94	84.60	
		NON DPAP	Chamarajanagar	Drip System	66	59.40	
			Kollegala	Drip System	56	50.40	
			Yelandur	Drip System	30	27.00	
Total					**246**	**221.40**	
4	2019-20	DPAP	Gundlupet	Drip System	98	88.20	
		NON DPAP	Chamarajanagar	Drip System	68	61.20	
			Kollegala	Drip System	59	53.10	
			Yelandur	Drip System	35	31.50	
Total					**260**	**234.00**	
5	2020-21	DPAP	Gundlupet	Drip System	103	92.70	
		NON DPAP	Chamarajanagar	Drip System	71	63.90	
			Kollegala	Drip System	61	54.90	
			Yelandur	Drip System	40	36.00	
Total					**275**	**247.50**	
GRAND TOTAL					**1066**	**959.40**	

5.7 Brief Report & Action Plan of HorticultureDepartment

5.7.1 Status of Horticulture Department in the District

- Major Horticulture crops grown in district are Banana, Coconut, Turmeric, Vegetables, Marigold, Papaya and Pomegranate.
- 22.50% of the total net sown area is covered under Horticulture crops
- Government of India's flagship programme National Horticulture Mission is being implemented from 2007-08 to 20016-17.
- Horticulture area increased from 38485 ha to 53121 ha from 2007-08 to 2015-16
- There is an increase in Horticulture area of 14636 ha in last 9 years
- Horticulture crop production increased from 4.67 lakh MT to 6.85 lakhs MT from 2007-08 to 2015-16.
- 14250 ha Horticulture area brought under drip irrigation from 2005-06 to 2015-16
- Farmers showing interest in area expansion programme of Horticulture crops and every year 5 to 6% increase in area is targeted

Due to scarcity of water, power and labour problems farmers are showing interest for adopting drip irrigation system with fertigation and mulching technology in Horticulture crops.

Pic: 5.7.1. (a) Drip Irrigation In High Density Mango Plantation

Pic: 5.7.1. (b) Drip Irrigation In Gerbera under Protected Cultivation

Pic: 5.7.1. (c) Drip Irrigatio In Papaya Crop

Pic: 5.7.1. (d) Drip & Fustigation Unit

Tabel:5.7.1Micro Irrigation Action Plan for Hortiulture Crops

Sl No	Description of work	2016-17		2017-18		2018-19	
		Phy : (in ha)	Fin : (in lakhs)	Phy: (in ha)	Fin : (in lakhs)	Phy: (in ha)	Fin : (in lakhs)
1	2	3	4	5	6	7	8
1	DPAP - DRIP	448	366.89	482	397.32	518	427.11
2	NON DPAP - DRIP	1153	953.32	1239	1021.68	1332	1098.31
	Total	**1601**	**1320.21**	**1721**	**1419**	**1850**	**1525.42**

Sl No	Description of work	2019-20		2020-21		2021-22		Total	
		Phy: (in ha)	Fin : (in lakhs)	Phy: (in ha)	Fin : (in lakhs)	Phy: (in ha)	Fin : (in lakhs)	Phy: (in ha)	Fin : (in lakhs)
1	2	9	10	11	12	13	14	15	16
1	DPAP - DRIP	556	459.15	598	493.58	643	530.60	3245	2674.65
2	NON DPAP - DRIP	1432	1180.67	1540	1262.22	1655	1364.40	8351	6880.60
	Total	**1988**	**1639.82**	**2138**	**1755.8**	**2298**	**1895**	**11596**	**9555.25**

Tabel: 5.7.2Talukwise Micro Irrigation Action Plan for Hortiulture Crops

Sl.No	Name of the District	Name of the Block	Activity	Irrigation Protentil (ha)	Period of Implementaion (5/7 years)	Estimated cost (Rs in Lakhs)
	DRIP IRRIGATION					
1	**DPAP BLOCK**					
	Chamarajangara	Gundlupet	DPAP - DRIP	3245	2016-22	2674.65
		Total		**3245**		**2674.65**
		NON DPAP BLOCKS				
		Chamarajanagara	NON DPAP - DRIP	5845.05	2016-22	4801.33
		Kollegala	NON DPAP - DRIP	1752.70	2016-22	1455.43
		Yalandur	NON DPAP - DRIP	753.25	2016-22	623.84
		Total		**8351.00**		**6880.60**
		Grand Total		***11596.00***		***9555.25***

5.8 Department of Sericulture, Chamarajanagar District

Table: 5.8 Micro Irrigation Action Plan for Sericulture Crops

SL. NO	Description of work	Taluk	2016-17		2017-18		2018-19		2019-20		2020-21		TOTAL	
			phy: (in ha)	Fin: (inlakhs)	phy: (in ha)	Fin: (inlakhs)	phy: (in ha)	Fin: (inlakhs)	phy: (in ha)	Fin: (inlakhs)	phy: (in ha)	Fin: (inlakhs)	phy: (in ha)	Fin: (inlakhs)
1	DPAP-DRIP	Gundulupet	5	4.39	5	4.39	5	4.39	5	4.39	5	4.39	25	21.96
TOTAL			**5**	**4.39**	**5**	**4.39**	**5**	**4.39**	**5**	**4.39**	**5**	**4.39**	**25**	**21.96**
2	NON-DPAP DRIP	Chamarajnagar	8	7.03	8	7.03	8	7.03	8	7.03	8	7.03	40	35.15
		Kollegal	8	7.03	8	7.03	8	7.03	8	7.03	8	7.03	40	35.15
		Yelandur	4	3.51	4	3.51	4	3.51	4	3.51	4	3.51	20	17.57
TOTAL			**20**	**17.57**	**20**	**17.57**	**20**	**17.57**	**20**	**17.57**	**20**	**17.57**	**100**	**87.87**
GRAND TOTAL			**25**	**21.96**	**25**	**21.96**	**25**	**21.96**	**25**	**21.96**	**25**	**21.96**	**125**	**109.83**

5.9Stratergic Action Plan of Panchayathraj Engineering Department (Rural water supply)

5.9.1.Rural water supply situation in Chamarajanagar District

Chamarajanagar District constitutes of four Taluks namely Chamarajanagar, Gundlupet, Kollegal and Yelandur with a total of 851 habitations among which Chamarajanagar has 254 habitations, Gundlupet 200 habitations, Kollegal 347 habitations and Yelandur with 50 habitations. The major source to supply water in all the four taluks is dependent on ground water. The status of coverage of habitations as per 55 LPCD in all the four Taluks differ from 0 to 100%, with coverage of 29 habitations coming in the range 0 to 25%, with coverage of 302 habitations having the range more than 25% but less than 50%, with coverage of 429 habitations greater than 50% and less than 75%, with 74 habitations the coverage ranges from 75 to 100% and with 17 habitations having 100% and above population coverage.

As the major source to supply water in all four Taluks is dependent on ground water and some quantity of enroute villages surface water. Water which is drawn from these sources has variable yield. The sources together in all four Taluks counts to 9623, the tested water from these sources have no Fluoride, Arsenic, Salinity (TDS), Chlorideand normal pH content. In 215 habitations together in four Taluks with total of 418 sources come under BIS discrable limits. To test water three laboratories have been setup in three Taluks namely Chamarajanagar, Gundlupet and Kollegal. Frequent tests are conducted in these labs which are well equipped with advanced instruments.

Action plan for water supply activities for the year 2017-18 to 2021-22 is prepared using line estimate of Rs. 91545.05 Lakhs

Pic 5.9.1(a)

Pic 5.9.1 (b)

Name of Work:- Revival of MWS Scheme at kalpura Village in Chamarajanagar Taluk

- Est Cost:- Rs 7.00 Lakhs
- DR No:- 1290/13-14
- Head of Account:- 4215 NRDWP
- Date of Commencement:-03/12/2013
- Date of Completion:- 03/02/2014
- Name of contractor:- K G Shivakumar
  Kalpura Village,
  Chamarajanagar Tq

Table 5.9.1 Stratergic Action Plan for Water Supply Activities by Panchayathraj Engineering Department (Rural water Supply Division), Chamrajanagara

Sl No	Name of the District	Name of The Scheme	Unit/Scheme	Amount required Per Unit in lakhs	Amount required for 5 Years in lakhs	Remarks
1	Chamarajanagara District	MVS of Chamarajanagar	1	29280	29280.00	
2		MVS of Gundlupet	1	20500	20500.00	
3		MVS of Kollegal	1	34000	34000.00	
4		MVS of Yalandur	1	6000	6000.00	
			Total	**89780**	**89780.00**	
1	Chamarajanagara District	O&M/HP Maintainence	5411	1000	270.55	
2		MWS Scheme Maintainence	2004	5000	501.00	
3		PWS Scheme Maintainence	987	10000	493.50	
4		Support Activities	4 Taluks	5000000	250.00	
5		Lab Maintainence	3	5000000	250.00	
			Total		**1765.05**	
			Grand Total		**91545.05**	

5.9.2. Water Supply situation in Chamarajanagar District Urban Local Bodies

Chamarajanagar District has 05 Urban Local Bodies. Among them Chamarajanagar and Kollegal are City Municipal Council, Gundlupet is Town Municipal Council, Yelandur and Hanur are Town Panchayaths.

Chamarajanagar and Kollegal, City Municipal Council has each 31 wards, Gundlupet, Town Municipal Council has 23 wards, Yelandur and Hanur Town Panchayaths have 11 & 13 wards respectively.

Population of Chamarajanagar and Kollegal, City Municipal Council, Gundlupete, Town Municipal Council, Yelandur and Hanur Town Panchayaths is 69875, 57149, 28105, 8779 & 11066 as per 2011 census respectively.

Surface water has been drawing for Chamarajanagar District 5 ULBs from Cauvery and Kabini River in addition to ground water. Chamarajanagar is drawing the drinking water from T.Narasipura 35 km away from Chamarajanagar town. Kollegal is drawing from Dasanapura 4 km away from Kollegal town. Similarly for Gundlupete, Beguru village near Nanjangudu 40 km away from Gundlupet town. Yelandur is drawing from Mullur village around 20 k.m away from Yelandur town and Hanur town drawing from Harale village around 26 k.m away from Hanur.

Almost all the existing water supply schemes are 14 to 16 years old. Chamarajanagar & Gundlupet ULBs need new water supply schemes based on the present and extended population and Hanur ULB need separate pipeline for enroute villages.

Specially Chamarajanagar Town Water Supply scheme facing water problem in river for intake well during summer season. Almost all exiting system is very old and facing troubles. 10 enroute villages are drawing the drinking water in same existing line. So KUWS&DB has prepared and submitted the DPR for new Water Supply scheme

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Pic 5.9.2 (a) 10 Lakhs liters M.B.R. at Galipura in Chamarajanagar Town

Pic 5.9.2 (b) Booster pump House at Mangala water Treatment Plant for Chamarajanagar Water Supply System

Table 5.9.2 Action Plan for Water Supply Activities for Urban Areas

SL No	Name of the ULB	Name of the Scheme	Unit/ Scheme	Amount required Lakhs / Year	Amount required Lakhs / 5 Years
1	CMC Chamarajanagar	Operation and maintainance of jackwell, WTP and distribution systems	1	350	1750
2	CMC Kollegal		1	200	1000
3	TMC Gundlupet		1	250	1250
4	T.P Yelandur		1	90	450
5	T.P. Hanur		1	140	700
Total for Maintenance			**5**	**1030**	**5150**
1	CMC Chamarajanagar	New Water supply Schemes	1		20000
2	TMC Gundlupet		1		15200
3	T.P. Hanur		1		500
Total for New Water supply Schemes			**3**		**35700**
Grand Total					**40850**

5.10 BRIEF REPORT & ACTION PLAN OF CADA- MYSURU

5.10.COMMAND AREA DEVELOPMENT AUTHORITY (CADA), MYSURU- Introduction

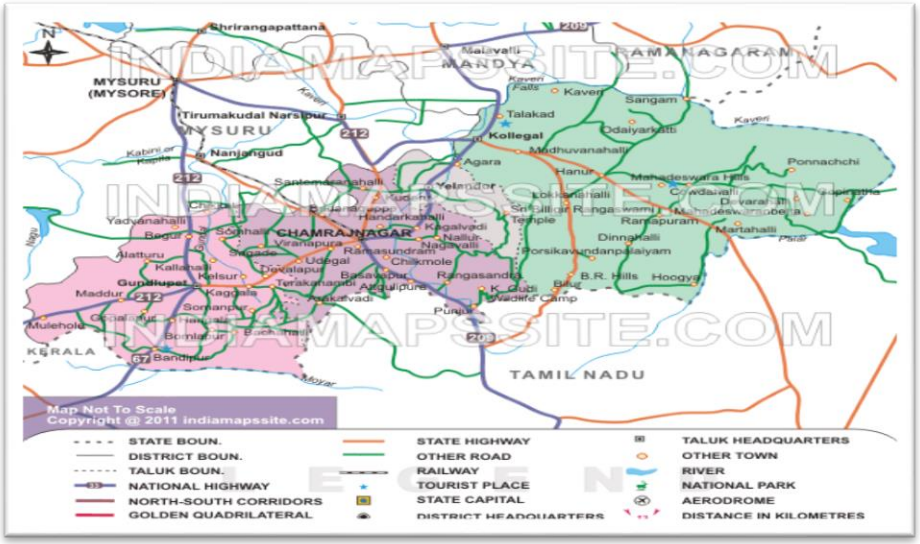
Agriculture is the backbone of Indian Economy and it is the pillar of the Economic development. The intensive gap created between the potential created and utilized was highlighted by both the National Commission on Irrigation 1971 and the National Commission on Agriculture 1976. In order to reduce this gap and to achieve the task of proper utilization of water, land and crop management in the major and medium irrigation projects of the command area by formulating suitable guidelines, this command area development authority came into existence during 1974-75.

As per the directions issued by the Government of India, the Government of Karnataka established this Cauvery Basin Projects with Mysore as its principal Headquarters along with other CADAs which were already formed & established. This Authority includes four Major irrigation projects Viz. Kabini, Harangi, Hemavathy and KRS together with fifteen medium irrigation projects Viz. Nugu, Taraka, Gundal, Votehole, Marconahally, Manchanabele, Kanva, Byramangala, Uduthorehalla, Arkavathi, Igglauru Barrage, Suvarnavathi, Chiklihole, Chikkahole and Varuna.

This Authority is started functioning from 1.3.1974 and functioning as an autonomous body from 11.12.1979 through command Area development Act. 1980.The Authority has been established with main objectives to ensure optimum utilization of irrigation potential created and in turn to increase the Agricultural production and productivity under the overall command of Cauvery Basin Projects.

The main objectives of the existing Command Area Development (CAD) restructured programme also includes reduction of loss of irrigation water in the conveyance system and improve its efficiency at the farm level while ensuring equitable distribution of water. The programme must also help in building the capacity of Water Users Associations.

The CADA Cauvery Basin Projects, Mysore implements various schemes to achieve the basic objectives to ensure optimum utilization of irrigation potential created on one hand and to increase the agricultural production and productivity on the other. The various steps undertaken in this direction are the formation of water users co-operative societies by involving the farmers in water management, Excavation of field channels and field drains, Reclamation of water logged and salt affected soils, formation of atchkut rods and conducting various training programmes and Demonstrations etc.



Map: 5.10. (a) CADA NO.2 Division,

Map: 5.10. (b) Chamarajanagar Command Area

Pic 5.10. (a) Farmers observing moisture Conservation

Pic 5.10. (b) Farmers study tour for command area

Pic 5.10. (c) Construction of Cement Concrete Field Channels

Pic 5.10. (d) Formation of Surface Drain Work

Table: 5.10. Strategic Action Plan for Command Area Development by CADA

SL No	Name of the Block /sub districts	Concerned Ministry/ Department	Component		Activity	Unit	Total Programme of works under PMKSY		Year wise Programme proposed										Total Number/ Capacity (cum)	Command Area/Irrigation Potential (Ha.)	Period of Implemen-tation	Estimated cost (in Rs Lakhs)
									2016-17		2017-18		2018-19		2019-20		2020-21					
							Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin				
1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PROJECTS : KABINI																						
4.0 Programme Components : PMKSY																						
1	Chamarajanagara	CADA	(B) Har Khet Ko Pani Command Area Development	(1)	Seepage Drains	ha	1086.83	65.21	1086.83	65.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			1	65.21
				(2)	Land Reclamation	ha	497.00	247.87	9.46	4.10	100.0	50.00	100.0	50.00	140.0	70.00	147.54	73.77			5	247.87
					Total			**313.08**		**69.31**		**50.00**		**50.00**		**70.00**		**73.77**				**313.08**
			(C) Per Drop More Crop	(1)	Micro Irrigation	ha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00			0	0.00
			Total of Chamarajanagara Tq					**313.08**		**69.31**		**50.00**		**50.00**		**70.00**		**73.77**				**313.08**
2	Kollegala	CADA	(B) Har Khet Ko Pani Command Area Development	(1)	Seepage Drains	ha	520.00	26.00	0.00	0.00	120.0	6.00	150.0	7.50	120.0	6.00	130	6.50			4	26.00
				(2)	Land Reclamation	ha	510.00	253.04	40.00	18.04	50.00	25.00	50.00	25.00	150.0	75.00	220	110.0			5	253.04
					Total			**279.04**		**18.04**		**31.00**		**32.50**		**81.00**		**116.5**				**279.04**
			(C) Per Drop More Crop	(1)	Micro Irrigation	ha	100.00	131.21	100.00	131.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			1	131.21
			Total of Kollegala Tq					**410.25**		**149.25**		**31.00**		**32.50**		**81.00**		**116.5**				**410.25**

Continued...

3	Yelanduru	CADA	(B) Har Khet Ko Pani Command Area Development	(1)	Seepage Drains	Ha	420.00	21.00	0.00	0.00	50.00	2.50	100.00	5.00	150.00	7.50	120.00	6.00
				(2)	Land Reclamation	Ha	565.00	282.50	64.68	32.34	120.00	60.00	120.00	60.00	130.00	65.00	130.32	65.16
					Total			**303.50**		**32.34**		**62.50**		**65.00**		**72.50**		**71.16**
			(C) Per Drop More Crop	(1)	Micro Irrigation	Ha	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Total of Yalanduru Tq					**303.50**		**32.34**		**62.50**		**65.00**		**72.50**		**71.16**
4	Chamarajanagara District	CADA	**(B) Har Khet Ko Pani - Command Area Development**	1	Construction of Seepage drains	Ha	2026.83	112.21	1086.83	65.21	170.00	8.50	250.00	12.50	270.00	13.50	250.00	12.50
				2	Land Reclamation	Ha	1572.00	783.41	114.14	54.48	270.00	135.00	270.00	135.00	420.00	210.00	497.86	248.93
					Total			**895.62**		**119.69**		**143.50**		**147.50**		**223.50**		**261.43**
			(C) Per Drop More Crop	1	Micro Irrigation	Ha	100.00	131.21	100.00	131.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
				2	**Training Programmes**	No	28	10.80	5	1.80	5	1.80	6	2.40	6	2.40	6	2.40
				3	**Crop Demonstrations**	No	56	3.88	10	0.50	10	0.50	12	0.96	12	0.96	12	0.96
					Total			**145.89**		**133.51**		**2.30**		**3.36**		**3.36**		**3.36**
			Total of Chamarajanagara District					**1041.51**		**253.20**		**145.80**		**150.86**		**226.86**		**264.79**

5.11: Department of Social Forestry

Table 5.11.: Action Plan for social forestry for Forestry Works.

Sl. No	Activity	2015-16		Year Wise Target(in lakhs)									
				2016-17		2017-18		2018-19		2019-20		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maintenance of pbs	234040	88.815	248800	100.00	260000	110.00	260000	121.00	260000	133.00	1028800	552.82
2	Maintenance of plantations	327		196.5		194.5		209.5		242		842.5	
3	Raising of mansoon plantations	45		50		50		50		50		200	
4	Raising of plantations	12.5		12		40		40		40		132	
5	Raising and Maintenance of Pbs	248800		260000		260000		260000		260000		1040000	
6	Adavance Works	12		40		40		40		40		160	
	Total		**88.815**		**100.00**		**110.00**		**121.00**		**133.00**		**552.82**

Note: pbs-Polythene bag seetings

APPENDIX- LIST OF MAPS

ANNEXURE A- LIST OF TABLES

ANNEXURE- LIST OF PICTURES