

NAME OF WORK: Filling of 74 Tanks in Kudligi taluk, Bellary District for providing drinking water & to recharge ground water table by lifting water from Tunga Bhadra river near rajivala village in Huvinahadagali Taluk. Bellary district, under Kudligi lift scheme.

REPORT

The rainfall is decreasing year by year leading to the scarcity of water for domestic use of various villagers in the regions of Bellary District, Kudligi Taluk. This has also led to the fall of underground water table and failure of sunk wells / bore wells. Even if we find water in such depth there is always presence of dissolved or suspended minerals in it which is neither potable nor palatable. The villagers, local representatives and leaders of these areas are requesting to propose a tank filling scheme to feed water in to 74 tanks comes under Kudligi taluk, Bellary District to recharge ground water and supply of Drinking water.

The detailed Investigation, Surveys, Designs, Drawings and DPR were got prepared by entrusting the work to a consultancy firm. As per the DPR, the project envisages filling of 74 tanks in 2 stage lifting, the DPR was prepared for 670.00 crores and got Administrative approval Vide GO No. ಜಸಂಇ 29 ಎಂಟಿಪಿ 2021 ಬೆಂಗಳೂರು Dated 25-06-2021. The scheme has been bifurcated in two packages, Package - I and Package-II details are as below.

Package-I or 1st lift

In the Package- I or 1st stage, the total requirement of 1.440 TMC of water will lifted through Rising main of dia 1660mm of MS pipe & HDPE pipe up to the delivery chamber-1 i.e., near Nadamanahalli Village. The water is proposed to be lifted from Tungabhadra River near Rajivala for a period of 22 hours pumping for continues 120 days by using 6 (working) + 1 (standby) VT Pumps of capacities 3245 HP each is proposed to lift water of 4.291 cumecs. From this delivery chamber 1440.509 Mcft of water will convey through gravity main network, about 2 tanks are feeding directly from the rising main (i.e., tank No- 3 & 5) which required 21.862 Mcft (0.065 Cumecs) and the remaining quantity of 1418.68 Mcft (4.227 Cumecs) of water will deliver in to tanks through gravity main network out of which about 1088 Mcft (1.088 TMC) or 3.244 Cumecs of water will reach to Tank No-6 (Sunkadakallu tank or Palayanakote kere) where the 2nd stage pump house is proposed. The total numbers of tank are proposed to fill in this stage is 16 No's, This part of the scheme is called Package-I or 1st stage lift or Part - A.

Following are the tanks comes under 1st lift or Part-A

Sl. No	Tank number	Tank name	Water demand			
			Tank capacity	Proposed to fill the tank	Discharge for 120 days and 22 Hours	
			(Mcft)	(Mcft)	Cusecs	Cumecs
1	Tank-3	Murthinayakanhalli	9.000	6.300	0.663	0.019
2	Tank-5	Hirevaddarahalli	22.180	15.526	1.634	0.046
3	Tank-6	Sunkadakallu	84.960	59.472	6.258	0.177
4	Tank-7	Sunkadakallu-1	5.160	3.612	0.380	0.011
5	Tank-9	T Basapura-2	2.540	1.778	0.187	0.005
6	Tank-10	T Basapura-1	60.000	42.000	4.419	0.125
7	Tank-11	Tuppakhanahalli	3.200	2.240	0.236	0.007
8	Tank-12	Badeladaku	106.030	74.221	7.809	0.221
9	Tank-13	Gajapura	3.000	2.100	0.221	0.006
10	Tank-16	Ujjini-2	4.100	2.870	0.302	0.009
11	Tank-17	Hanumanahalli -1	6.200	4.340	0.457	0.013
12	Tank-18	Hanumanahalli -2	5.400	3.780	0.398	0.011
13	Tank-19	Ujjaini-1	20.000	14.000	1.473	0.042
14	Tank-20	Ujjaini	131.540	92.078	9.688	0.274
15	Tank-21	Mungapur	120.000	84.000	8.838	0.250
16	Tank-22	Benakanhalli	4.000	2.800	0.295	0.008
Grand total =			587.310	411.117	43.257	1.225

Package-II or 2nd lift:

In the Package- II or 2nd stage the total water of 1029.392 Mcft or 1.029 TMc is lifted from inlet pipe coming from 1st lift near Tank No-6 (Sunkadakallu tank or Palayanakote kere) in Banivikallu Village Through Rising main and it will deliver in 2 locations. Here also 22 Hours pumping for continuous 120 days is proposed by using 4(working) + 1 (Standby) VT Pumps of capacity 1545 HP without affecting the original capacity of the parent tank and its purpose. The total numbers of tank are proposed to fill in this stage is 58 No's, This part is called 2nd stage or PART-B.

Following are the tanks comes under 2nd lift or Part-B

SL. No	Tank number	Tank name	Water demand			
			Tank capacity	Proposed to fill the tank	Discharge for 120 days and 22 Hours	
			(Mcft)	(Mcft)	Cusecs	Cumecs
1	Tank-1	C J Halli	8.000	5.600	0.589	0.017
2	Tank-2	Imdapur	26.540	18.578	1.955	0.055
3	Tank-4	Hurlihalu	67.000	46.900	4.935	0.140
4	Tank-8	Hulikatte	6.220	4.354	0.458	0.013
5	Tank-14	Erragundalhalli	8.000	5.600	0.589	0.017
6	Tank-15	Mahadevpuratank	10.080	7.056	0.742	0.021
7	Tank-24	Nimbalagere	32.590	22.813	2.400	0.068
8	Tank-23	Agrahar	3.300	2.310	0.243	0.007
9	Tank-25	Gunasagara	14.150	9.905	1.042	0.030
10	Tank-26	Banvikallu	1.700	1.190	0.125	0.004
11	Tank-27	Kanchobanahalli	1.640	1.148	0.121	0.003
12	Tank-28	Kurihatti	63.340	44.338	4.665	0.132
13	Tank-29	Gundumunagu	17.250	12.075	1.271	0.036
14	Tank-30	Mudukalakatte	2.400	1.680	0.177	0.005
15	Tank-31	Koracharahatti	7.300	5.110	0.538	0.015
16	Tank-32	Mesarahatti	4.000	2.800	0.295	0.008
17	Tank-33	Gandabommanahalli	281.390	196.973	20.725	0.587
18	Tank-34	M B Ayyanahalli	9.760	6.832	0.719	0.020
19	Tank-35	Hosahalli	36.460	25.522	2.685	0.076
20	Tank-36	Hulikere	41.460	29.022	3.054	0.086
21	Tank-37	Veergondanhalli	30.490	21.343	2.246	0.064
22	Tank-38	Lokikere-2	21.700	15.190	1.598	0.045
23	Tank-39	Tandahatti	15.640	10.948	1.152	0.033
24	Tank-40	Tippenhalli	27.220	19.054	2.005	0.057
25	Tank-41	Katarakhatti	6.330	4.431	0.466	0.013
26	Tank-42	Lummobanahalli	11.290	7.903	0.832	0.024
27	Tank-43	Amlapura-1	4.500	3.150	0.331	0.009
28	Tank-44	Amalapura	1.120	0.784	0.082	0.002
29	Tank-45	Jaramalayi	4.500	3.150	0.331	0.009
30	Tank-46	Ramdurga	31.850	22.295	2.346	0.066
31	Tank-47	Gollarahatti	2.200	1.540	0.162	0.005
32	Tank-48	Errobayyanahatti	2.100	1.470	0.155	0.004
33	Tank-49	Gudekote	64.680	45.276	4.764	0.135
34	Tank-50	Sarvodaya	10.640	7.448	0.784	0.022
35	Tank-51	Appayyanahalli	63.000	44.100	4.640	0.131

SL. No	Tank number	Tank name	Water demand			
			Tank capacity	Proposed to fill the tank	Discharge for 120 days and 22 Hours	
			(Mcft)	(Mcft)	Cusecs	Cumecs
36	Tank-52	Rayapura	45.000	31.500	3.314	0.094
37	Tank-53	Kyasanakere-2	1.500	1.050	0.110	0.003
38	Tank-54	Kyasanakere-1	15.440	10.808	1.137	0.032
39	Tank-55	A Mallapura	20.160	14.112	1.485	0.042
40	Tank-56	Choudapura	52.160	36.512	3.842	0.109
41	Tank-57	Moraba	18.330	12.831	1.350	0.038
42	Tank-58	Birlagudda-1	2.000	1.400	0.147	0.004
43	Tank-59	Birlagudda-2	1.500	1.050	0.110	0.003
44	Tank-60	Birlagudda-3	1.800	1.260	0.133	0.004
45	Tank-61	Ammankeri	4.000	2.800	0.295	0.008
46	Tank-62	Kudulagi Big Tank	68.180	47.726	5.022	0.142
47	Tank-63	Kuduligi	22.470	15.729	1.655	0.047
48	Tank-64	Govindagiri	4.400	3.080	0.324	0.009
49	Tank-65	Kuduligi	1.460	1.022	0.108	0.003
50	Tank-66	Amaradevaragudda	2.200	1.540	0.162	0.005
51	Tank-67	A D Gudda	28.280	19.796	2.083	0.059
52	Tank-68	Kuppinakere	21.940	15.358	1.616	0.046
53	Tank-69	Sasalwada	45.510	31.857	3.352	0.095
54	Tank-70	Hirehegdal	119.650	83.755	8.813	0.250
55	Tank-71	Kyavalyapura-1	22.290	15.603	1.642	0.046
56	Tank-72	Shivapura	11.900	8.330	0.876	0.025
57	Tank-73	Jangamasovenahalli	8.370	5.859	0.616	0.017
58	Tank-74	Goolarahatti	12.180	8.526	0.897	0.025
Grand Total =			1470.560	1029.392	108.311	3.067

The operation and maintenance of both the Lifts are synchronised so that the existing system for Sunkadakallu tank or Palayanakote kere is not affected and the purpose of both lifts are fulfilled.

Since the overall scheme is divided in to two packages and the work has been awarded to two agencies. Package - I has been awarded to Sri, KDH-HIPL (J.V) and Package - II to Aditya Construction Co.,.

The scheme involved forest area crossing in rising main and gravity main pipe line alignment. The details are as given below,

Crossing No.	Reach		Pipe Length (in m)	Outer Diameter of pipe (in mm)	Pipe material	Forest reach details				
	Start	End				Start Chinage in m	End Chinage in m	Length in m	Required width of laying pipe in m	Area required in Sqm.
2	J33	Tank-14	8015	160.00	HDPE	2025.00	3790.00	1765.00	1.6	2824.00
3	J33	J44	4050	910.00	MS	1900.00	2800.00	900.00	1.60	1440.00
4	J44	J34	6145	710.00	MS	2100.00	4600.00	2500.00	1.60	4000.00
5	J45	J46	4451	308.00	MS	0.00	4451.00	4451.00	1.60	7121.00
6	J36	Tank-50	748	140.00	HDPE	500.00	748.00	248.00	1.6	396.8
7	J10	Tank-45	5290	200.00	HDPE	2450.00	3250.00	800.00	1.6	2080.00

Electric Express Feeder Line crossing details											
1	Ujji i subst ation	Pump House	6500	3500.0	6000.0	2500.0	7.50	18750.0			
Total =							20259.0		49063		

4.91 Ha

Crossing - 1 :

Nearest village : Pujardhalli

Taluk / District : Kotturu/Bellary

Latitude & Longitude :

Start : 14°45'10.64"N, 76°21'32.13"E

End : 14°45'19.24"N, 76°22'8.22"E

Name of forest : Sunkadkallu Reserved forest East and south west Extension

Total area required :0.25 Ha

Crossing - 2 :

Nearest village : Banavikallu
Taluk / District : Kotturu/Bellary
Latitude & Longitude :
Start : 14°45'44.96"N, 76°24'48.62"E
End : 14°45'47.98"N, 76°25'20.29"E
Name of forest : Banavikallu Reserved forest
Total area required :0.21 Ha

Crossing - 3 :

Nearest village : Hosahalli
Taluk / District : Kotturu/Bellary
Latitude & Longitude :
Start : 14°39'3.09"N, 76°29'15.86"E
End : 14°38'58.68"N, 76°31'17.55"E
Name of forest : Hosahalli Reserved forest
Total area required :0.78 Ha

Crossing - 4 :

Nearest village : Gandabommanahalli
Taluk / District : Kudlagi/Bellary
Latitude & Longitude :
Start : 14°46'14.70"N, 76°33'57.82"E
End : 14°46'11.15"N, 76°34'48.39"E
Name of forest : Shidegallu Reserved forest
Total area required :0.28 Ha

Crossing - 5 :

Nearest village : Shidegallu
Taluk / District : Kudlagi/Bellary

Latitude & Longitude :
Start : 14°46'56.26"N, 76°33'32.18"E
End : 14°47'17.49"N, 76°33'51.98"E
Name of forest : Shidegallu Reserved forest
Total area required : 0.14 Ha

Crossing - 6 :

Nearest village : Shidegallu
Taluk / District : Kudlagi/Bellary
Latitude & Longitude :
Start : 14°48'23.60"N, 76°34'50.82"E
End : 14°49'32.56"N, 76°35'31.08"E
Name of forest : Shidegallu Reserved forest
Total area required :0.40 Ha

Crossing - 7 :

Nearest village : Ramdurga
Taluk / District : Kudlagi/Bellary
Latitude & Longitude :
Start : 14°50'6.86"N, 76°35'11.71"E
End : 14°50'56.17"N, 76°32'59.06"E
Name of forest : Ramdurga Reserved forest
Total area required :0.71 Ha

Crossing - 8 :

Nearest village : Sarvodaya
Taluk / District : Kudlagi/Bellary
Latitude & Longitude :
Start : 14°51'0.20"N, 76°37'58.75"E
End : 14°51'7.15"N, 76°37'56.90"E
Name of forest : Gudekote reserved forest
Total area required :0.039 Ha

Crossing - 9 :

Nearest village : Jarmalagi
Taluk / District : Kudlagi/Bellary
Latitude & Longitude :
Start : 14°49'36.06"N, 76°27'4.06"E
End : 14°49'31.06"N, 76°27'43.70"E
Name of forest : Jarmalai Resurved forest
Total area required :0.204Ha

Crossing - 10 :

Nearest village : Punjaradalli
Taluk / District : Kudlagi/Bellary
Latitude & Longitude :
Start : 14°44'36.38"N, 76°19'6.88"E
End : 14°45'11.11"N, 76°20'15.88"E
Name of forest : Sunkadakallu Resurved Forest
Total area required :1.875Ha