KRISHNA BHAGYA JALA NIGAM LIMITED

(A Government of Karnataka undertaking)

UPPER KRISHNA PROJECT IN KARNATAKA - PROPOSAL AMENDMENT TO ENVIRONMENTAL CLEARANCE

-: PRE-FEASIBILITY REPORT :-

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1. Executive Summary

1. Upper Krishna irrigation project across Krishna river provides irrigation facility to desert areas of Bijapur district and drought prone areas of Bagalakot, Gulbarga, Yadagir and Raichur districts in northern Karnataka.
2. Govt. of India has accorded special provision to these areas under article 371J of the constitution to combat the regional imbalances. The project involves construction of 2 major dams near Alamatti and Narayanapur to facilitate the irrigation.
3. The Upper Krishna project was executed in 2 stages. Stage-I of the project is irrigating 4,24,903 Ha and Stage-II is irrigating 1,97,120 Ha. Both Stage-I & II was accorded Environmental Clearance from MoEF vide letter Nos. J-12011/41/86-IA dated 05.04.1989, J-12011/31/96-IA.I dated 18.07.2000 and J-12011/30/96-IA.I dated 04.10.2000 respectively.
4. Due to the dire demand of farmers and to eradicate regional imbalances, Krishna Bhagya Jala Nigam Ltd, Govt. of Karnataka is intending to expand the command area of Upper Krishna project by providing irrigation facilities for the command area which was left out physical area of Stage-I and II of Upper Krishna project.
5. This proposal involves lifting of water from Krishna river directly at 4 places without constructing any structures across the river and intending to provide irrigation facilities for the drought prone areas.
6. The water required to irrigate the additional command area is achieved by reducing the irrigation intensity of Upper Krishna Project from 115% to 100% and additional water allocated for Upper Krishna project from the Godavari-Pollavaram diversion project.
7. KBJNL is focused on water conservation measures by adopting Govt. of India program on 'National Water Mission (NWM)' as a part of National Action Plan for Climate Change. The main objective of NWM is conservation of water and minimizing wastage and ensuring its more equitable distribution both across and within states through 'Integrated Water Resource Development and Management'.
8. The additional lifting of water neither involves submergence nor Rehabilitation & Resettlement. Further, there are no ecologically sensitive area, national parks, wildlife sanctuaries, Reserve Forests in the command area and no forest land is required to implement the scheme. Hence, there will not be any impact on environmental components.

2. Introduction

2.1 Brief History of Upper Krishna Project

The River Krishna is the second biggest river in the peninsular India and takes birth in the Mahadev range of Western Ghats. It rises in the Western Ghats at an altitude of 1,336.49 m above sea level near Mahabaleshwar in Maharashtra and flows across the peninsula from West to East for a length of about 1,392 Km before it drains into the Bay of Bengal. It enters the State of Karnataka at its 304 Km and passes through the State for 480 Km and finally falls into Bay of Bengal near Bapatla in Andhra Pradesh . It is an interstate river flowing in three States viz., Maharashtra, Karnataka and Andhra Pradesh. The river basin is 2.57 lakh Sq. Km, and the States of Maharashtra, Karnataka and Andhra Pradesh contributes 68,800 Sq. Km (26.8%), 1, 12,600 Sq. Km (43.8%) and 75,600 Sq. Km (29.4%) respectively. The Upper Krishna Project was originally conceived by the erstwhile State of Hyderabad along with the Lower Krishna Project (now known as Nagarjunasagar project). This project could not be initially implemented because the submersion was mostly in Bijapur Dist., which was then not a part of State of Mysore (Karnataka). After the reorganisation of states the scope of the project was modified so as to include two storage reservoirs.

In 1973, the Krishna Water Dispute Tribunal (KWDT) adjudicated on the sharing of Krishna river waters between the three riparian states of Maharashtra, Karnataka, and Andhra Pradesh. KWDT - I in its final order dated December 24, 1973 has allocated the 75% dependable flows of 2060 TMC of Krishna waters amongst three riparian states and the share of Karnataka State aggregated to 734 Thousand Million Cubic Feet (TMC) of water. The further report of the Tribunal dated May 27, 1976 also contained modification of the final order based on references made by different States under Section 5(3) of the Act. The Central government construed the aforesaid final order to be the decision of the Tribunal and accordingly published the same in the Extraordinary Gazette dated May 31, 1976 and on such publication, the said final order has statutorily became final and binding on the parties to the dispute. To implement the award, the Government of Karnataka formulated a Master Plan comprising of various projects. One of these projects is the Upper Krishna Project under which it was proposed to utilise 173 TMC of water. In order to derive maximum benefits as early as possible, the project was envisaged to be executed in different Stages and Phases to utilise 119 TMC of water in Stage 1 and 54 TMC in Stage II.

2.2.1 Identification of the Project and Project Proponent

Krishna BhagyaJala Nigam Ltd (KBJNL) was incorporated on19th August 1994 under the Companies Act, 1956 as Company, wholly owned by the Government of Karnataka for implementation of the Upper Krishna Project (UKP) in the State of Karnataka.

The Company is responsible for planning, investigation, estimation, execution, operation and maintenance of all irrigation projects coming under the UKP. The Company is also responsible to obtain Government of India's clearance and execute the UKP. The Company is also entrusted with the responsibility of rehabilitation and resettlement of the people affected by the Project. The Company is authorized to sell water and recover revenues from individuals, groups of farmers including those in the Command Area Development Authority, towns, city municipalities and industries.

2.2 Brief description of the Project

Upper Krishna irrigation project across Krishna river provides irrigation facility to desert area of Bijapur district and drought prone areas of Bagalakot, Gulbarga, Yadagir and Raichur districts in northern Karnataka. Govt. of India has accorded special provision to these areas under article 371J of the constitution to combat the regional imbalances. The project involves construction of 2 major dams near Alamatti and Narayanapur to facilitate the irrigation. The Upper Krishna project was executed in 2 stages. Stage-I of the project is irrigating 4,24,903 Ha and Stage-II is irrigating 1,97,120 Ha. Both Stage-I & II was accorded Environmental Clearance from MoEF vide letter Nos. J-12011/41/86-IA dated 05.04.1989, J-12011/31/96-IA.I dated 18.07.2000 and J-12011/30/96-IA.I dated 04.10.2000 respectively. Copy of the said environmental clearances is enclosed as **Annexure-1.**

Now, due to the dire demand of farmers and to eradicate regional imbalances, Krishna Bhagya Jala Nigam Ltd, Govt. of Karnataka is intending to expand the command area of Upper Krishna project by providing irrigation facilities for the additional command area which was left out physical area of Stage-I and II of Upper Krishna project. This proposal involves lifting of water from Krishna river directly at 4 places without constructing any structures across the river and intending to provide irrigation facilities for the drought prone areas. The water required to irrigate the additional command area is achieved by reducing the irrigation intensity of Upper Krishna Project from 115% to 100% and additional water allocated for Upper Krishna project from the Godavari-Pollavaram diversion project. The details of the additional command area proposed are as follows;

Table - 1 Details of additional command area

Sl.No	Name of lifting point	Area propose to be irrigated (Ha)	Water requirement in M.Cum	Type of irrigation proposed
1	Thimmapur	20100	124.87	Conventional
2	Ramthal(Marol)	38000	165.37	Conventional & Drip
3	Budihaal-Peerapur	20243	107.03	Conventional
4	Nandawadagi	36100	106.18	Drip

KBJNL is focused on water conservation measures by adopting Govt. of India program on 'National Water Mission (NWM)' as a part of National Action Plan for Climate Change. The main objective of NWM is conservation of water and minimizing wastage and ensuring its more equitable distribution both across and within states through 'Integrated Water Resource Development and Management'.

The additional lifting of water neither involves submergence nor Rehabilitation & Resettlement. Further, there are no ecologically sensitive area, national parks, wildlife sanctuaries, Reserve Forests in the command area and no forest land is required to implement the scheme.

The command area map of the Upper Krishna Project showing the proposed additional command area is enclosed as **Annnexure-2.**

2.3 Need for the project and its importance to the country or region

The basic economic activity in this project area is agriculture. Uncertain rainfall and vagaries of Monsoon added with large number of marginal and poor formers have resulted in low per capita income and poor standard a living. In the absence of other income sources, providing irrigation is the best strategy to provide employment opportunities to the local population, improving their per capita income and consequent improved standard of living. This will also result in optimal utilization of water and land resources of the region Development of Irrigation and increase in agriculture produce processing including food processing.

The proposed areas are economically backward areas and agriculture is the main source of occupation. The annual rainfall in these regions is very much lower in comparison to the state average and hence these farmers are growing only dry crops being water scarce area. This has reduced the area to drought prone with irrigation area less than the total area.

2.4 Employment Generation (Direct and Indirect) due to the project

The proposed project requires labour for construction and on-going maintenance of pump house rising main etc and other infrastructure. This is likely to be an important sector of employment for the poor, especially the landless rural poor or rural households.

It aims to increases the farm output as a result, irrigation will stimulate demand for farm labour both within the main cropping season and across new cropping seasons, increasing both numbers of workers required and length of employment period. Rural poverty levels may therefore be reduced by increased employment opportunities.

Increased employment in agriculture due to increased cropping intensity, increased crop area and output from irrigation. Increased employment outside agriculture from increased crop output in related industries such as input industry (backward linkages) and output

processing industries (forward linkages) – Examples include Oil Industry, food processing industries, etc. Taluk wise list of benefiting villages under the expansion proposal is given under each project.

3. Project Description

Presently, Upper Krishna project is irrigating 6,22,023 Ha and the present proposal is to expand the command area by lifting water from Krishna River. The water required to irrigate the additional command area is achieved by reducing the irrigation intensity of Upper Krishna Project from 115% to 100% and additional water allocated for Upper Krishna project from the Godavari-Pollavaram diversion project.

3.1 Water Availability

The Irrigation intensity for Upper Krishna project stage-I & II was kept at 108% and 115% for utilization of 173 TMC of water. According to the approved DPR of UKP stage-II (September, 2000), out of 147 TMC reserved for irrigation, only 126.03 TMC of water will be utilized to irrigate 4,24,903 Ha under stage-I and 1,97,120 Ha under stage-II with the irrigation intensity of 100% . Thereby, conserving 20.97 TMC of water which can be utilized at the later stages to provide irrigation facilities to drought prone area.

The details of each proposal is described below;

3.2 Thimmapur LIS

The Scheme consists of single stage lifting arrangements with two delivery points located at 540.00 and 560.000 m. The total utilisation is 9.584 Cumecs of water to be drawn from ARBC main canal at Km 5.386 so as to irrigate 15500 Ha of land lying between 520.000 to 540.00m RL, design discharge being 7.392 Cumecs and also to irrigate 4600 Ha of land lying between RL 540.00m to 560.00m, design discharge being 2.192 Cumecs. The total utilisation of water to Irrigate 20100 ha of land in Hungund and Bagalkkot taluks of Bagalkot district is 4.41TMC as per the G.O. WRD.215 KBJNL 2002 Bangalore dated 17.12.2013.

Intake canal length is 1560.00 m from the ARBC main canal at Km 5.36 to the sump and pump house and located near Thimmapur village, Bagalkot Taluk. The length of the Raising main Ist stage 0.76 KM & IInd Stage 1.94 Km so as to carry the water from Pump house to Delivery chamber DC-1 and DC-2 near Thimmapur village, Bagalkot Taluk of Bagalkot district.

In the First stage the water is lifted from the Ist stage Main canal from RL 513.480 m to 540.000m near Bilkerur village for irrigating an area of 15500 Ha. In the second stage the water is lifted from RL 513.480m from the common Jack well to RL 560.000m for irrigating an area of 4600Ha. with the irrigation intensity of 115% and the water utilization is 4.41 TMC. The total area of Irrigation under the scheme is 20100 Ha. in the Hunugund & Bagalkot Taluka of Bagalkot District

The Ist & II stage has a common head work for the project which is located near thimmpaur village, in Bagalkot Taluka, Bagalkot District. The latitude and longitude are Latitude 16° 16' 28.83"N Longitude 75°52'36.14"E respectively.

The land use in the proposed project area is dry land agriculture, subject to vagaries of monsoon rain with low cropping intensity and low productivity. The common crops that are grown are Jowar, Pulses, Groundnut, Sunflower, etc. The proposed irrigation intensity is kept at 115% for Khariff and Rabi season. The command area map of the project area on Toposheet showing different project components is enclosed as **Annexure-3** and following figure presents the Google view of the proposed project lifting location;

Fig - 1 Location Map of lifting point

The salient features of the project is given below;

Table 2 - Salient features of Thimmapur LIS

Sl.No	Particulars	Ist stage	IInd stage
i	Length of canal / Intake canal	1560 m	
ii	Required Peak Discharge	2.24 Cumecs	0.96 Cumecs
iii	Total Head	45.94 m	32.58m
iv	Length of Raising Main upto Delivery chamber in Kms	4.65	3.01
V	Next to Peak Discharge	7.392 Cumecs	2.192 Cumecs
Vi	Command area	15500Ha	4600Ha
Vii	Total power required	12.5 Mw	
viii	Cost of the project in Crores	133.33 Crores	
ix	B.C Ratio	1.3	

3.2.1 Hydrology

The water earmarked for the scheme is 4.41 TMC. The Head works are designed and constructed so as to draw water from the back waters of the Almatti reservoir. The Hydrology of the Almatti reservoir is made use in planning the scheme. Salient features of the Almatti reservoir is given below;

Table 3 - Salient features of Almatti Reservoir

Location	Across River Krishna near Almatti village of B. Bagewadi Taluk, Bijapur Dist.
Length of Dam	1564.83 Mt.
Height of Dam above Lowest foundation level	49.29 Mt.
Full Reservoir Level	RL 519.60 Mt.
Storage Capacity	Gross 123.08 TMC Live 105.43 TMC
Spillway Crest Gates	Radial Type 26 No. Size -15m x 10.58m
Designed flood intensity	31,007 Cumecs (10,95,000 Cusecs)
Storage of water up to FRL 519.60 mt. accomplished during 2002.	

Fig - 2 View of Almatti Reservoir

3.2.2 Cropping Pattern

In UKP the cropping pattern is adopted based on the discussions made with Chief Scientist, CADA, Agricultural Research Station, Bijapur and, Soil Scientists from University of Agricultural Sciences, Dharwad. The cropping pattern proposed in UKP is as recommended by Principal Agricultural Officer, Bijapur.

Table 4 - The details of cropping pattern with Irrigation intensity

Season	Crop Detail	Percent	Crop period (days)	Area in Ha
Khariff	Maize (Hybrd)	15	120	1608
	Jowar (Hybrd)	15	90	3417
	Ground Nut	25	90	2412
	Sun Flower	5	60	4422

Season	Crop Detail	Percent	Crop period (days)	Area in Ha
	Pulses	5	75	1206
	Sub Total	**65**		**13065**
Rabi	Local Jowar	10	135	804
	Safflower	5	150	1005
	Gram	5	135	1005
	Sunflower	5	120	2211
	Wheat	10	150	1005
	Ground nut	5	90	1005
	Sub total	**35**		**7035**
Two-Seasonal	Cotton	5	165	1005
	Vegetable/Red gram	5	135	1005
	Chillies	5	150	1005
Subtotal		**15**		**3015**
Total		**115**		**23115**

Table - 5 List of benefitting villages under Thimmapur LIS

Sl.No	District	Taluk	Villages
1	Bagalakot	Bagalakot	Thimmapur
2			Achanur
3			Bilkerur
4			Bodanayakanadhinni
5			Manahalli
6			Hosur
7			Nagasampige
8			Nagaral
9			Nainegali
10			Bevor
11			Devalapur
12			Domnal
13			Hiremagerei
14			Hallur
15			Bairamatti
16			Benakatti
17			Bagavathi
18			Choudapur
19			Bommanagi
20			Mankani
21			Sangapur
22		Hunugund	Chitiginakoppa
23			MudivinaKoppa
24			Chikkamageri
25			Ingalagi
26			Handargal
27			Sutagundar
28			Turudagi
29			Valakadinni
30			Voragodudinni
31			Sangam
32			Kengalkadapatti

Sl.No	District	Taluk	Villages
33			Hoovanur
34			Ambikopa
35			Suralikal
36			Kadivaal-Kallapur

3.3 Ramthal (Marol) LIS

The Ramthal Lift Irrigation Scheme (RLSI) is proposed in Scheme “A” of the Krishna Basin Projects. It propose to provide benefits of irrigation to about 26,200 ha of draught prone areas of Hunagund Taluk (Bagalkot District) on the right bank of river Malaprabha.

In the original scheme, there was a proposal to construct a barrage across river Malaprabha near Ramthal village and lift water from barrage in two stages. But the scheme has been modified proposing to lift water directly from Narayanapur reservoir near Marol village.

It is proposed to combine the command area of ARBC beyond river Malaprabha in the Ramthal L.I.S. Therefore, the total utilization (4.5 + 1.34) = 5.84 TMC where in originally earmarked for RLIS in the Master plan the scheme is 4.5 TMC and 1.34 TMC earmarked for ARBC in UKP Stage. The project comprises of the following;

The Ist stage Ramthal (Marol) LIS comprises of lifting water from the fore shore of Narayanpur reservoir,. i.e., from RL 485.500 Mtr to RL 522.00 Mtr near Havergi Village of Hungund Taluka Bagalkot District to provide Irrigation facilities through conventional method for an area of 14000 Ha. The intensity of irrigation adopted is 115%. The water utilized for the Ist stage area of irrigation is 3.07 TMC.

In the second stage the water is lifted from the Ist stage West Main canal from RL 520.11m to 547.000m near Ramavadagi village for an area of 12571 ha. But due to adoption of Drip irrigation the area under the second stage has been increased from 12571 Ha to 24000 Ha, with the irrigation intensity of 115% and the water utilization is 2.77 TMC. The total area of Irrigation under the scheme is now increased from 26200 Ha to 38000 ha with the same allocation of 5.84 TMC of water. The total area of Irrigation under the scheme is 38000. Under Conventional method of irrigation it is propose to provide irrigation to 14000 Ha and under Micro Irrigation for 24000 Hectares is irrigated in the Hunugunda Taluka of Bagalkot District.

The command area map of the project area on Toposheet showing different project components is enclosed as **Annexure-4** and following figure presents the Google view of the proposed project lifting location;

Fig - 3 Location Map of lifting point

The Ist stage head work of the project is located near Havergi village, in Hungund Taluka, Bagalkot District. The latitude and longitude are Latitude 16° 10' to 16°15'N Longitutde 76°05' to 76° 10'E respectively. The Second stage Head work is located near Ramavadagi village Hungund taluka Bagalkot District in Karnataka. The latitude and longitude are Latitude 16° 12' N Longitutde 76°05' E respectively.

The salient features of the project is given below;

Table 6 - Salient features of Ramthal (Marol) LIS

Sl.No	Particulars	Ist stage	IInd stage	Drip Irrigation
i	Length of canal / Intake canal	475 m from the off shore of Narayanpur Reservoir	350 M from the Ist stage West main canal	From the IInd stage Delivery chamber a sump is constructed connecting the DC
ii	Required Peak Discharge	19.675 Cumecs	6.07 Cumecs	6.07 Cumecs
iii	Total Head	45.94 m	32.58m	13 m
iv	Length of Raising Main upto Delivery chamber in Kms	4.65	3.01	
V	Next to Peak Discharge	11.369 Cumecs	5.455 Cumecs	Only Peak discharge
Vi	Command area	14000	24000	24000
Vii	No of Distributaries blocks	45	-	-
viii	No of Branch Canals	-	-	-
ix	Total power required	12.5 Mw		
x	Cost of the project in Crores	1004		
xi	B.C Ratio	1.18		

3.3.1 Hydrology

The water earmarked for the scheme is 5.84 TMC. The Head works are designed and constructed so as to draw water foreshore of Narayanpur reservoir. The Hydrology of the Narayanpur reservoir is made use in planning the scheme.

The Narayanpur dam was constructed across Krishna River near Bachihal and Siddapur villages of Muddebihal Taluk situated on left side of river banks. The construction work of Dam was taken up from 1969 and completed during 1982. The impounding of water in the reservoir was commenced from July 1982. The Dam is mainly serves as subsidiary Dam/balancing reservoir with main storage at Alamatti Dam. The Narayanpur Dam serves the most essential aspect of providing irrigation through a canal network on both left & right bank ayacuts to the tune of 5,50,000 Ha of Bijapur, Gulburga, Yadagir and Raichur Districts.

The Narayanapur Dam mainly serves as diversion Dam which is located at 65 Kms downstream below the main storage Dam at Almatti to facilitate for off taking of the main canal on both left and right side banks to cover the major command of the entire project under flow irrigation. The length of the Dam itself is initiating the nature of the reservoir flat terrain in the vicinity of the Dam. The height of the Dam above the .lowest foundation level is only 29.72 mtrs., and capacity of the reservoir is 1.07 TMCum (37.785 TMCft) and water spread area at FRL-492.252 mtrs., is 132 Sqkms

The back water of Narayanapur reservoir at FRL spread even beyond the Almatti Dam but it is intercepted by the construction of Almatti Dam Hence the construction of Almatti dam above foundation level for the full length was taken up simultaneously with the construction of Narayanpur dam so as to facilitate impounding of water in the Narayanpur Reservoir for its full capacity in the 1st stage itself. Salient features of the Narayanpur reservoir is given below;

Table 7 - Salient features of Narayanpur Reservoir

Gross storage capacity	1.066 T.M.Cum (37.646 T.M.C)
Live Storage capacity	0.863 T.M.Cum (30.473 T.M.Cft)
Dead storage at 0.203 T.M.C	R.L. 481.584 (7.167 T.M.Cft)
Storage at M.D.D.L of 485.50M (1592.50)	0.392 T.M.Cum (14.867 T.M.Cft)
Full reservoir level	492.252 M
Maximum flood level	492.252 M
Top level of Dam	496.752 M for earthen dam section and 495.752 M for masonry dam
Maximum area for Water spread	132 Sq. Km. (50.94 Sq. Miles)
Length of Dam	548.00 M (1797.98 Ft)
Maximum height of Dam above the lowest foundation level	29.72 M (97.5 Ft)
Height of Dam above the lowest river	25.812 M

bed level	
Top width of dam	7.50 M
Number and size of crest gates	30 Nos of 15M x 12M (Radial gates) 25 Nos main spillway gates 5 Nos additional spillway gates
Number and size of river sluice gates	4 Nos 1.5M x 2.5M
River sluice level	472.252 M

Fig - 4 View of Narayanpur Reservoir

3.3.2 Existing & Cropping pattern

The present agriculture practices are tuned to rainfall, Rabi and bi-seasonal crops however the cropping intensities and the yield are low, it is mostly subsistence farming. The cropping pattern under rain fed condition practiced in the project area and their corresponding productivities are given as below:

There may be small isolated pockets of Kharif paddy and Sugarcane where supplemental water is drawn from tube wells. The red soils with low water holding capacity are generally cultivated during the Kharif and left fallow in Rabi. The moderately deep, fine textured black soils are also cultivated during Kharif season. Whereas the more common heavy black clay soils with high water holding capacity but with poor internal drainage are cultivated in Rabi season.

The pattern fluctuates from year to year depending on the timing and adequacy of rainfall. Jowar is the most important crop and is the only crop grown on black soil from the middle of wet season. For reasons such as economy, lack of infrastructure and traditional agricultural practices and inputs, cotton is getting partially replaced by sunflower and saf-flower.

In UKP the cropping pattern is adopted based on the discussions made with Chief Scientist, CADA, Agricultural Research Station, Bijapur and, Soil Scientists from University of Agricultural Sciences, Dharwad. The cropping pattern proposed in UKP is as recommended by Principal Agricultural Officer, Bijapur.

Table - 8 The details of cropping pattern with Irrigation intensity

Season	Crop Detail	Existing cropping percent	Existing Area in Ha	Proposed Cropping Percent
Khariff	Maize (Hybrd.)	8	3040	15
	Jowar	17	6460	15
	Ground Nut	12	4560	25
	Sun Flower	22	8360	5
	Pulses	6	2280	5
	Sub Total	**65**	**24700**	**65**
Rabi	Local Jowar	4	1520	10
	Safflower	5	1900	5
	Gram	5	1900	5
	Sunflower	11	4180	5
	Wheat	5	1900	5
	Ground nut	5	1900	5
	Sub total	**35**	**13300**	**35**
Two-Seasonal	Cotton	5	1900	5
	Vegetable/Red gram	5	1900	5
	Chillies	5	1900	5
	Subtotal	**15**	**5700**	**15**
	Total	**115**	**38000**	**115**

Table - 9 List of benefitting villages under Ramthal (Marol) LIS

Sl.No	District	Taluk	Villages benefitting under Phase-I	Villages benefitting under Drip Irrigation
1	Bagalakot	Hunagund	Haavaragi	Belagal
2			Kongawada	Thimmapura
3			Koujaganuru	Hungund
4			Anapakatti	Bevinmatti
5			Indavaara	Hirebadwadagi
6			Odeyara Gonala	Banihatti
7			Kamaladinni	Rakkasagi
8			Chinta Kamaladinni	Chittawadagi
9			Gattiganuru	Honnarahalli
10			Konnuru	Nagura
11			Palthi	Yadalli
12			Manmathanaala	Amingada
13			Pochapura	Sulibhavi
14			Dasabaala	Chickkarayankeri
15			Kesarapenti	Hirerayankeri
16			Paachapura	Ramavadagi
17			Amaravadagi	Iddalagi
18			Marola	Bisnalkoppa
19			Koppa	Dannura
20			Dannuru	Bisnal
21			Hullalli	Hadagali
22			Adihala	Medinapura

Sl.No	District	Taluk	Villages benefitting under Phase-I	Villages benefitting under Drip Irrigation
23			Yammetti	Kirasura
24			Eddalagi	Gangura
25			Medinapura	Chittaragi
26			Hadagali	Huluginala
27			Kirasuru	Kallugonala
28			Gangura	Madapura
29			Madapura	
30			Budhihaala	
31			Ramawadagi	
32			Kadivala	
33			Revadihaala	
34			Bekamaladinni	
35			Hagedala	
36			Hanagunda	
37			Belagal	
38			Thimmapura	
39			Binjawadagi	
40			Turamari	
41			Islampura	
42			Jalakamaladinni	
43			Lolaasara	
44			Hemaawaadagi	
45			Bisanaalakoppa	
46			Chittaragi	
47			Karadi	
48			Needasanura	
49			Benakanadoni	
50			Chinnapura S K	
51			Kamadatta	
52			Hiremaagi	
53			Bevinaala	
54			Hulaginala	
55			Enam Budihaala	

3.4 Budihaal-Peerapur LIS

Budihaal-Peerapur LIS comprises of lifting water from the fore shore of Narayanpur reservoir,. i.e., from RL 486.00 Mtr to RL 850.00 Mtr near Badhihaal Village of Muddebhihaal Taluka Bijapur District., with an allocation of 3.78 TMC of water & to provide Irrigation for 20243 Hectares of Muddebhihaal and Sindagi Taluka with an allotted water under Godavari - Pollavaram diversion scheme as per the Govt order of Karnataka GO: WRD 49 KBN 2009, Bangalore Dated 19.03.2012.

The command area map of the project area on Toposheet showing different project components is enclosed as **Annexure-5** and following figure presents the Google view of the proposed project lifting location;

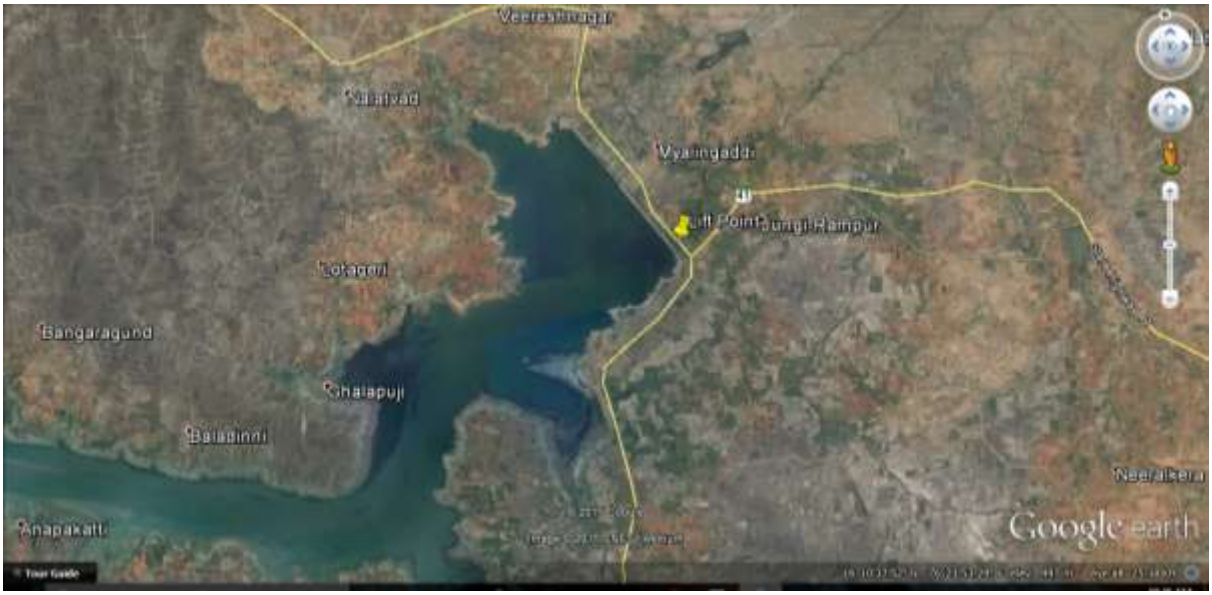

Fig - 5 Location Map of lifting point

The salient features of the project is given below;

Table 10 - Salient features of Budihaal-Peerapur LIS

Sl.No	Particulars	Details
i.	Length of lead off canal/Intake canal	Intake canal of 200.00 M is proposed from back water of Narayanpur to the sump and Pump house.
ii.	Required peak discharge.	9.312 Cumecs
iii.	Total Head	71+47= 118.00 M Static Head from Narayanpur reservoir
iv.	Length of the Raising Main upto delivery chamber in Kms	39.00 Km length of Raising Main with 14.00 to 13mm Thickness and 2450mm to 2200 mm Diameter Pipe
v.	Next to peak discharge	7.183 Cumecs
vi.	Command Area	20243 Ha
vii.	Number of distributaries blocks	-
viii.	Number of Branch canals	-
ix	Total power required	12.5 Mw
x	Cost of the project in Crores	840
xi	B.C Ratio	1.2

3.4.1 Hydrology

Hydrology of Narayapur dam detailed above.

3.4.2 Cropping Pattern

Table - 11 The details of cropping pattern with Irrigation intensity

Season	Crop	Percent	Area (Ha)
Kharif	Maize (Hy Br)	15	3036.45
	Jowar	15	3036.45

Season	Crop	Percent	Area (Ha)
	Ground Nut	20	4048.6
	Sun Flower	5	1012.15
	Pulses	5	1012.15
	Sub Total	**60**	**12145.8**
Rabi	Local Jowar	10	2024.3
	Safflower	2.5	506.075
	Gram	5	1012.15
	Sun Flower	2.5	506.075
	Wheat	5	1012.15
	Ground Nut	2.5	506.075
	Sub Total	**27.5**	**5566.825**
Two Seasonal	Cotton	5	1012.15
	Vegetables / Red Gram	5	1012.15
	Chillies	2.5	506.075
	Sub Total	**12.5**	**2530.375**
	Total	**100**	**20243.00**

Table - 12 List of benefitting villages under BP LIS

No.	District	Taluk	No. of villages benefited	List of villages benefited
1	Bijapur	Muddebihal	26	Maskanal, Maileswar, Bilebhavi, Salvadgi, Bandepennahalli, Gundaknal, Navadgi, Lakkundi, Belur, Shellagi, Kodanganur, Koraganur, Bhantanur, Gatakhandaki, Peerapur, Godisomanal, Kyogonal, Hosahalli, Huyinahalli, Tumbagi, Fattepur, Bolavad, Guttihal, Bommanahalli, Talikata, Nagpur
2	Bijapur	Sindagi	16	Niralogi, Aski, Bannihatti, Jalapur, Binjalabhavi, Bekinal, Yanakihal, Turukanagari, Budihal, Algar, Kerutagi, Ramapur, Hunashihal, Kalakeri, Kudaraguda, Kodarapur
		Total	**42**	

3.5 Nandawadagi LIS

Nandawadagi LIS comprises of lifting water from the fore shore of Narayanpur reservoir,. i.e., from RL 486.00 Mtr to RL 550.00 Mtr near Tondihal Village of Lingasugur Taluka Raichur dst., with an allocation of 3.75 TMC of water & to provide Micro Irrigation for 36100 Hectares of Lingasugur, Manvi and Hunugunda Taluka with an allotted water under Godavari - Pollavaram diversion scheme as per the Govt order of Karnataka GO: WRD 49 KBN 2009, Bangalore, dated 19.03.2012.

Intake canal of 400.00 Mtr is proposed from fore shore to the sump and pump house and located near Tondihal village, Lingasugur Taluk. Raising main of 14.00 KM is proposed to carry the water from Pump house to Delivery chamber near Nandawadagi village.

The location of proposed Jackwell of NLIS is at latitude of 16^0, 8' 17.8" & longitude of 76^0, 60' 13.4"near Tondihal village of Lingasugur taluka in Raichur District, in Karnataka. The land use in the proposed project area is dry land agriculture, subject to vagaries of monsoon rain with low cropping intensity and low productivity. The common crops that are grown are Jowar, Pulses, Groundnut, Sunflower, etc. The proposed irrigation intensity is kept at 115% for Khariff and Rabi season. Further, the distributory no. 9A off taking from the Narayanpur Branch Canal covers an area of 15,250 Ha utilising 8.47 Cumecs of water totalling to 3.46 TMC. This extension of command area also benefits the Raichur District.

The command area map of the project area on Toposheet showing different project components is enclosed as **Annexure-6** and following figure presents the Google view of the proposed project lifting location;

Fig - 6 Location Map of lifting point

The salient features of the project is given below;

Table 13 - Salient features of Nandawadagi LIS

Sl.No	Particulars	Details
i.	Length of lead off canal/Intake canal	Intake canal of 400.00 M is proposed from back water of Narayanpur to the sump and Pump house.
ii.	Required peak discharge.	8.989 Cumecs
iii.	Total Head	64 M Static Head from Narayanpur reservoir
iv.	Length of the Raising Main upto delivery chamber in Kms	14.00 Km length of Raising Main with 14.99 mm Thickness and 2400 mm Diameter thickness
v.	Next to peak discharge	7.679 Cumecs
vi.	Command Area	36100 Ha
vii.	Number of distributaries blocks	-
viii.	Number of Branch canals	-
ix	Total power required	12 Mw
x	Cost of the project in Crores	1530
xi	B.C Ratio	1.62

3.5.1 Hydrology

Details provided above.

3.5.2 Cropping Pattern

Table - 14 The details of cropping pattern with Irrigation intensity

Season	Crop	Percent	Area (Ha)
Kharif	Maize (Hy Br)	8	2511
	Jowar	17	5336
	Ground Nut	12	3766
	Sun Flower	22	6905
	Pulses	6	1883
	Sub Total	**65**	**20401**
Rabi	Local Jowar	4	1256
	Safflower	5	1570
	Gram	5	1570
	Sun Flower	11	3453
	Wheat	5	1570
	Ground Nut	5	1570
	Sub Total	**35**	**10989**
Two Seasonal	Cotton	5	1570
	Vegetables / Red Gram	5	1570
	Sub Total	**15**	**4710**
	Total	**115**	**36100**

4. Site Analysis

4.1 Connectivity

Thimmapur LIS is approachable from Almatti situated in between Hospet – Bijapur NH 13 road about 35 Km from Hungund city. The project is also accessible through Railway from Almatti city Railway station.

Ramthal (Marol) LIS site is approachable from Hungund situated in between Hospet – Bijapur NH 13 road about 30 Km from Hungund city. The project is also accessible through Railway from Bagalkot city Railway station.

The Budihaal-Peerapur LIS site is approachable by road from Almatti which is about 60Kms. Approach to site by air is from nearest Airport situated @ Hubli, which is about 260Km. Approach by Rail is from Station Almatti which is 60 Kms away.

The Nandawadagi LIS site is approachable by road from Lingasugur which is about 45 Kms. Approach to site by air is from nearest Airport situated @ Hubli, which is about 195Km. Approach by Rail is from Station Almatti which is 60 Kms away.

4.2 Land form, land use and land ownership

The region falls in northern dry zone of Agro climatic zones of Karnataka. The land use details of each district is given below;

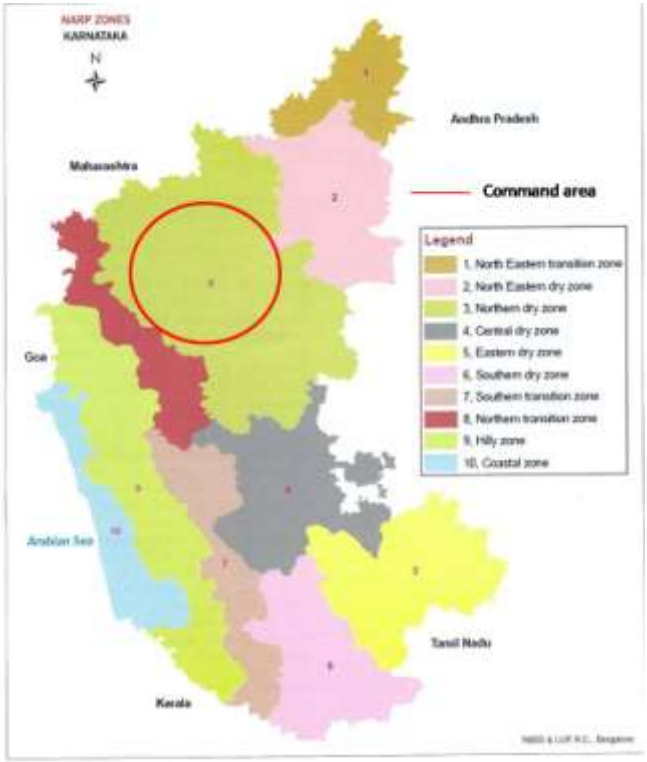

Fig - 7 Agro climatic zone ma of Karnataka showing command area

Table - 16 Land use of proposed command area

Land use of the district Area in '000 Ha	Geographical area	Forest area	Land under non-agricultural use	Permanent pastures	Cultivable wasteland	Land under Misc. tree crops and groves	Barren and uncultivable Land	Current fallows	Other fallows
Bijapur	1053.5	2.0	35.8	9.6	5.5	1.3	29.1	85.3	5.7
Bagalakot	658.9	81.1	28.8	3.4	2.0	0.3	24.8	40.1	10.0
Raichur	835.8	18.2	20.6	19.8	10.7	13.7	20.1	116.4	40.8

4.4 Existing Infrastructure

Villages are well connected by Village roads and can be accessed even during monsoon season. At each Taluk and district head quarters, appreciable agricultural marketing facilities are available. Transportation of agricultural inputs and other items from towns to villages and that of agricultural outputs/products from villages to town is convenient. Hence, Infrastructural facilities in the proposed Command Areas are available.

4.5 Soil Classification

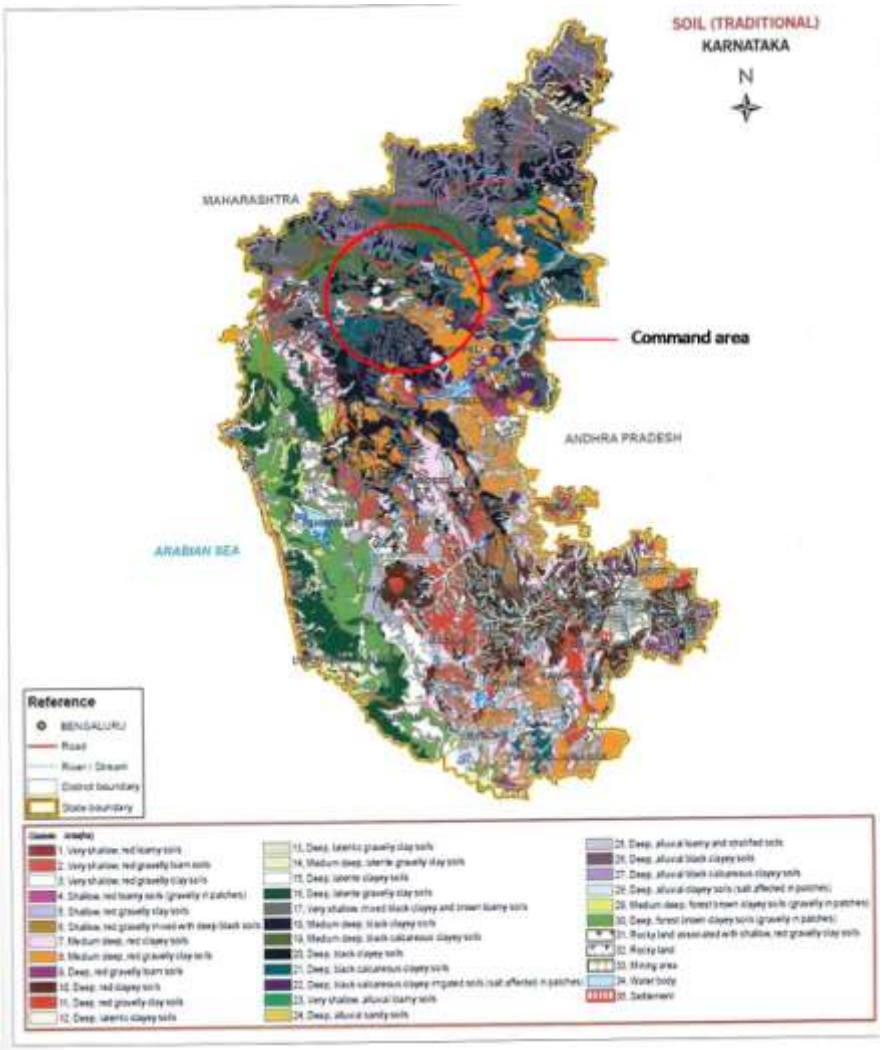

Fig - 8 Soil map of Karnataka showing command area

4.6 Climatic data from Secondary Sources

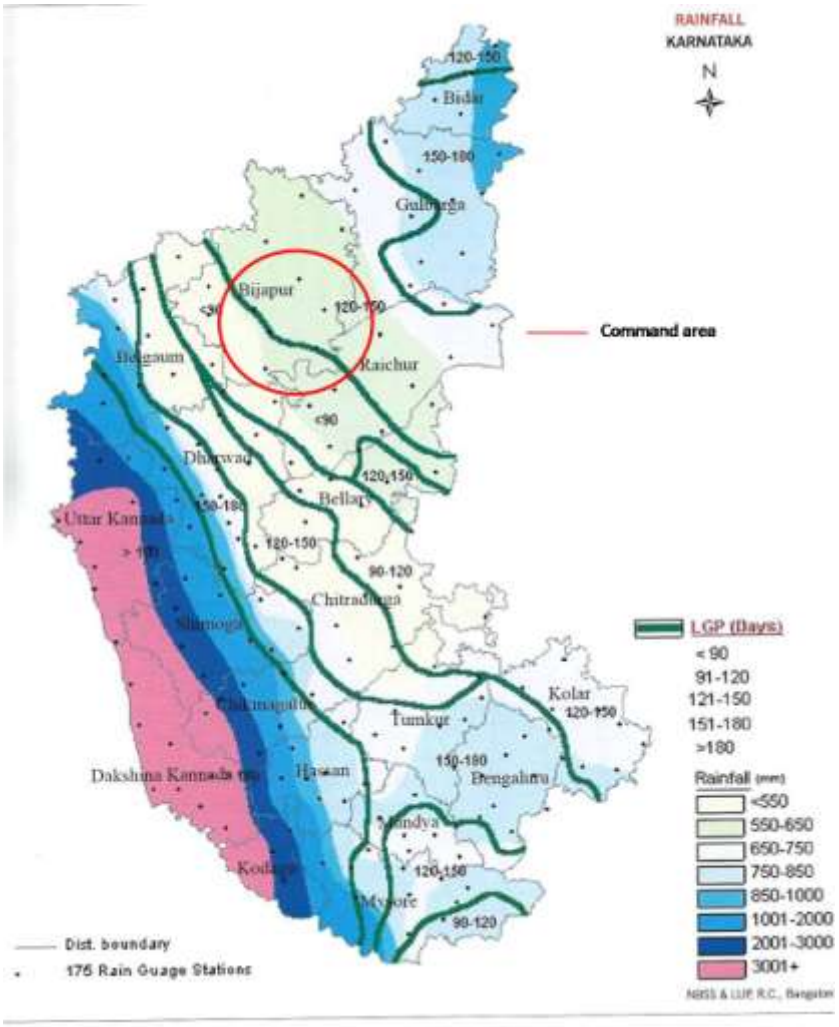

Fig - 9 Rainfall map of Karnataka showing command area

4.7 Social Infrastructure Available

The areas coming under this project is surrounded with a fairly god network of village roads coming under Zilla Public works department. No extra provision is made towards providing ayacut roads. The command area is connected with good communication facilities with road network and railway lines and good marketing facilities for farm product are also available. The banking and other co-operative financial institutions are also working in the taluka coming under command area.

5. Land Acquisition, R&R

There is no Rehabilitation and Resettlement for the expansion command area. The total land required to implement the scheme is 2582 Ha. The land acquired will be compensated as per Right to Fair Compensation and Transparency in Land Acquisition Act, 2014. Break up of land requirement is given below;

Table - 17 Break up land requirement for the expansion works

Sl.No	Project works	Revenue & Private Land (Ha)
A. Ramthal (Marol) LIS		
1	Head works & Raising Main	28.43
2	Canal Network	1033.84
3	Colony & Approach Road	1.89
	Sub-Total	**1064.11**
B. Budihaal - Peerapur LIS		
1	Head works & Raising Main	44.20
2	Canal Network	504.00
3	Colony & Approach Road	10.00
	Sub-Total	**558.20**
C. Thimmapur LIS		
1	Head works & Raising Main	20.90
2	Canal Network	724
3	Colony & Approach Road	--
	Sub-Total	**764.90**
D. Nandawadagi LIS		
1	Head works & Raising Main	62
2	Canal Network	123
3	Colony & Approach Road	10
	Sub-Total	**195**
	Grand Total	**2582**

ANNEXURE - I

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

दूरभाष :
Telephone No. :
तार :
Telegram : PARYAVARAN,
NEW DELHI

पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स,
PARYAVARAN BHAWAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

EP/12.1/18/kar

No.J-12011/41/86-IA

April 5, 1989

OFFICE MEMORANDUM

Subject: **Upper Krishna Stage-I Phase-II Project, Karnataka.**

Reference is invited to Public Works, CAD and Electricity Department's letter No.PWD 68 WUD 86 dated 3rd December, 1986 regarding the above mentioned proposal.

2. The scheme has been examined and is accorded approval subject to effective implementation of the following safeguards:

(i) Micro level Action Plans prepared on the basis of detailed studies/ surveys carried out earlier will be made available to the Department for assessment and monitoring;

(ii) Action Plans in respect of catchment area treatment, command area development and rehabilitation will be executed in the field and their critical components completed simultaneously with the commencing of the project failing which the impoundment would not be permitted;

(iii) The financial requirement for the implementation of the Action Plans as at (ii) above and other environmental safeguards must be adequately provided for in the budget estimates;

(iv) Adequate fuel arrangements should be made to supply fuel to the labour force at project cost;

(v) To prevent spread of communicable diseases screening of the work force at the dam site should be done and a network of health centres created for effective health delivery system;

(vi) Restoration of the construction areas should be ensured by levelling, filling of borrow pits, landscaping etc.;

(vii) The Department shall be kept informed of the progress made in various works every six months for reviewing and suggesting changes if reuired;

(viii) Itemwise financial allocation with yearly requirement should be made in the project budget for implementation of conditions stipulated above. Details of these financial estimates should be made available to the Ministry.

3. A special Monitoring Committee in consultation with the Ministry of Environment & Forests should be constituted with experts from various fields such as environment, watershed management, soil conservation, sociology to

Cont....p.2.

Cont.....

oversee the effective implementation of various environmental action plans concurrently with the construction works.

4. Implementation of these and any other safeguards that may be stipulated later in this regard will be ensured among others, under the provisions of the Environment (Protection) Act, 1986.

(S. MAUDGAL)
Director(IA)
Ph: 362827

Secretary,
Public Works CAD & Electricity Deptt.,
Karnataka Government Secretariat,
Vidhana Soudha,
BANGALORE.

Ep/12-1/140/KAR.

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भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सी. जी. ओ. काम्पलेक्स
PARYAVARAN BHAVAN, C.G.O. COMPLEX
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LODHI ROAD, NEW DELHI-110003

क्षेत्रीय कार्यालय (दक्षिण) Regional Office (South) डा/Dy. No. 698 ता/Dt. 10/10/2000

No.J-12011/30/96-IA-I

4.10.2000.

Subject:- Upper Krishna project, Stage-II - Environment clearance regarding.

Krishna Bhagya Jala Nigam Ltd. may refer to their letter No.MD/KBJNL/TECH/99-2000/210 dated 2.8.99 and subsequent letter dated 17.8.2000 on the above subject.

(A) Upper Krishna Project (UKP) comprises of 2 stages. The salient features of the two stages vis-à-vis Almatti Dam are as under :-

	Stage-I	Stage-II
1) Crest level	509.016 M	509.016 M
2) PMF (for once in 10,000 years floods)	10.95 lakh cusecs	10.95 lack cusecs
3) FRL	512.256 M	519.6 M
4) MWL	519.8 M	519.6 M

(B) UKP Stage-I consists of three phases. Phase-I was not referred for environmental clearance. Phase-II & Phase-III were accorded environmental clearance on 5th April, 1989 and 18th July, 2000 respectively.

2. The Ministry of Environment and Forests has carefully considered your application. It is noted that in the Judgement of Supreme Court of India in the suit filed by GoAP under ISWD Act 1956,delivered on 25.4.2000,the FRL of Almatti dam is restricted to EL 519.60 M only and Technical Advisory committee of Ministry of Water Resources has accepted the UKP Stage II proposal at its 73rd meeting held on 31.5.2000.

10/10

11/10 Open a new file under Irrigation Category.

RA(K)

During Stage-II of the project an additional area of 1.97 lakh Ha will be brought under irrigation by completing the following works for utilising 54 TMC of water-

i) Almatti Right Bank Canal(lift 121 Km) for an area of 16,100 ha.

ii) Rampur Lift Irrigation Scheme under Narayanpur reservoir(37 KM) for an area of 20,235 Ha.

iii) Narayanpur Right Bank Canal(95 Km) for an area of 84,000 Ha.

iv) Indi Lift Scheme from NLBC(97 Km) for an area of 41,900 Ha.

v) Mulwad Lift Irrigation Scheme from Almatti reservoir(106 Km) for an area of 30,850 Ha.

vi) Almatti Left Bank Canal(Lift) extension from 77.64 Km to 105 Km for an area of 4035 Ha.

ix) Balance works under Almatti Dam.

3. The Ministry of Environment and Forests hereby accords environmental clearance as per the provisions of Environmental Impact Assessment notification, 1994, subject to the strict compliance of the terms and conditions mentioned below –

Part-A.Specific conditions

i) Year wise action plan for treatment of 3775 Ha.. degraded catchment area of Narayanpur reservoir under stage II and peripheral area to be treated under afforestation in Almatti and Narayanpur reservoir during UKP stage II, as proposed in the EIA report should be followed in toto.

Plantation in Narayanpur	year 1st	year 2nd	year 3rd	year 4th	year 5th	Total
Deep Soil	240	275	290	173	Main--tenance	978
Medium Soil	265	290	215	109	-do-	879
Barren Lands	480	520	535	383	-do-	1918
						3775 ha.

Plantation in the periphery of Almatti reservoir						
Krishna river	800	800	800	836.66	Main-tenance	3236.66
Ghataprabha river	500	500	500	481.17	-do-	1981.16
Narayanpur Reservoir						
Krishna river	120	120	120	133.93	-do-	493.93

5711.76Ha.

ii) Dam break analysis and Disaster management plan should be submitted within six months from the date of issue of this letter.

iii) To identify areas needing salinity control and drainage measures a reconnaissance survey of the problem areas followed by a detailed survey for designing and executing suitable measures should be undertaken and reported to the Ministry within six months.

iv) The project proponent should undertake soil loss study in the streams flowing to the reservoirs and reservoir sedimentation survey at an interval of five years. The former may be undertaken for a few selected flood events within the current monsoon and the result used to project the reservoir sedimentation rate. Such studies for selected storm events may be done routinely every year. The first reservoir sedimentation survey may be conducted within a year to give bench mark information and followed by at least two surveys during the next ten years to assess the impact of elaborate plantation activities for soil conservation.

v) On-farm water management , presently, the operational schedule, vis-à-vis the incompleteness of the distribution network, is conducive neither to better utilisation nor to equitable distribution. A systematic water delivery schedule needs to be worked out and implemented when the distribution network is ready. In view of the planned deficit irrigation, it will be better if irrigation in any rotational period starts from the tail reach.

Part-B. General conditions

(i) Adequate free fuel arrangement should be made to the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.

(ii) Fuel depot may be open at the site to provide the fuel(kerosene/wood etc.). Medical facilities as well as recreational facilities should also be provided to the labourers.

(iii) All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.

(iv) Restoration of construction area including dumping site of excavated materials at dam site should be ensured by levelling, filling up of burrow pits, landscaping etc. The area should be properly afforested with suitable plantation.

(v) Downstream of the dam, flood zoning approach should be done. No settlement should be allowed within flood zone.

(vi) Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, at Bangalore for review.

4. Officials from Regional Office MOEF, Bangalore would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by project proponents during their inspection.

5. The responsibility of implementation of environmental safeguards rests fully with the Krishna Bhagya Jala Nigam Ltd.

6. In case of change in the scope of the project, project would require a fresh appraisal.

7. The Ministry reserves the right to add additional safeguard measures subsequently if found,necessary and to take action including revoking of the clearance under the provisions of the Environmental(Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in time bound and satisfactory manner.

8. This clearance letter is valid for a period of 5years from the date of issue of this letter.

9. State Pollution Control Board/Committee should display a copy of the clearance letter at the regional office, district industries centre and collector's office/tehsildar's office for 30 days. They should also send a copy of gram panchayat.

10. The project proponent should advertise at least in two local newspapers widely circulated in the region around the project ,one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http:// envfor.nic.in/.

Sd/-
(Dr. S. Bhowmik)
Additional Director

To

Shri .K.N. Srivastava
The Managing Director
Krishna Bhagya Jala Nigam Ltd.
PWD Office Annexe,3rd floor,
K.R. Circle
Bangalore-560001..

Copy to:-

1. The Secretary, Ministry of Water Resources, Shram Shakti Bhawan, Rafi Marg, New Delhi.
2. The Adviser (I&CAD), Planning Commission,-Yojana Bhawan, New Delhi.
3. The Chairman, Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi-66.
4. Regional Office, MOEF,Bangalore.
5. EI Division, MOEF,New Delhi.
6. Guard File.

(Dr. S. Bhowmik)
Additional Director

EP/12.1/133/KAR

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भारत सरकार
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GOVERNMENT OF INDIA
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पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स
PARYAVARAN BHAVAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODHI ROAD, NEW DELHI-110003

क्षेत्रीय कार्यालय (दक्षिण)
दा/Dy. 294
सं/No. 26/7/2000
ता/Dt. Regional Office (South)

No.J-12011/31/96-IA-I

18.7.2000.

Subject:-Upper Krishna project Stage-I, phase-III - Environmental clearance regarding.

Irrigation Department, Government of Karnataka may refer to their letterNo ID.199WBM 95, dated 25.9.96 and subsequent letters from Krishna Bhagya Jala Nigam Ltd., dated 24.5.99, 2.8.99, 20.1.99 and 3.6.2000 on the subject.

2 The Ministry of Environment and Forests has carefully considered your application. It is noted that the proposal contemplates increase of storage at Almatti Dam upto RL 512.2M by erecting 3.2 M high spillway gates, completion of Almatti left bank canal(Lift Scheme), Jewargi branch canal and Indi branch canal. The proposal also involves completion of R&R of the project affected families of 11 villages and affected families of Bagalkot town between RL 517.00 M to RL 519.00 M and completion of Intake structures of lift schemes to irrigate areas included in UKP stage-II.

3. The Ministry of Environment and Forests hereby accords environmental clearance as per the provision of Environmental Impact Assessment notification, 1994, subject to the strict compliance of the terms and conditions mentioned below –

Part-A.Specific conditions

i) Year wise action plan for treatment of 8300 hec. degraded area under Narayanpur reservoir, 7825 hec. under Almatti reservoir in the catchment area and plantation on 1552.22 hec. Area, on the periphery of the two reservoirs should be strictly implemented as proposed. These areas should be identified on an index map and submitted to the Ministry within three months.

Plantation in Narayanpur	year 1st	year 2nd	year 3rd	year 4th	year 5th	Total
Deep Soil	625	625	537	662.50	Main--tenance	2150.00
Medium Soil	700	675	562.50	387.50	-do-	2325.00
Barren Lands	1225	1100	850.00	650.00	-do-	3825.00
						8300 hec.

Plantation in Almatti catchment	year ist	year 2nd	year 3rd	year 4th	year 5th	Total
Deep Soil	900	562.50	487.50	312.50	Main-tenance	2262.50
Medium Soil	562.50	562.50	512.50	Main-tenance	-do-	1437.50
Barren Lands	1500	1025	950	650	Main-tenance	4125.00
						7825.00 hec.

Plantation in the periphery of Almatti reservoir						
Krishna river	322.50	334.25	Main-tenance	Main-tenance	Main-tenance	656.75
Ghataprabha river	197.50	203.68	-do-	-do-	-do-	401.18
Narayanpur Reservoir Krishna river	243.66	250.63	-do-	-do-	-do-	494.29
						1552.22 Ha

Part-B General conditions

i) Adequate free fuel arrangement should be made to the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented

ii) Fuel depot may be open at the site to provide the fuel(kerosene/wood etc.) Medical facilities as well as recreational facilities should also be provided to the labourers.

iii) All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before allowing them work permit.

iv) Restoration of construction area including dumping site of excavated materials at dam site should be ensured by levelling, filling up of borrow pits, landscaping etc. The area should be properly afforested with suitable plantation

v) Downstream of the dam, flood zoning appropriate should be done. No settlement should be allowed within flood zone.

vi) Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Chandigarh for review.

4. Officials from Regional Office MOEF, Bangalore would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by project proponents during their inspection.

5. The responsibility of implementation of environmental safeguards rests fully with the Krisha Bhagya Jala Nigam Ltd.

6. In case of change in the scope of the project, project would require a fresh appraisal.

. The Ministry reserves the right to add additional safeguard measures subsequently if found, necessary and to take action including revoking of the clearance under the provisions of the Environmental(Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in time bound and satisfactory manner

8. This clearance letter is valid for a period of 5years from the date of issue of this letter

9. A copy of the clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom any suggestion/representation has been received while processing the proposal

10. State Pollution Control Board/Committee should display copy of the clearance letter at the regional office, district industries centre and Collector's office/Tehsildar's office for 30 days

11. The project proponent should advertise at least in two local newspapers widely circulated in the region around the project ,one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http:// www.envfor.nic.in/.

sd-
(Dr. S. Bhowmik)
Additional Director

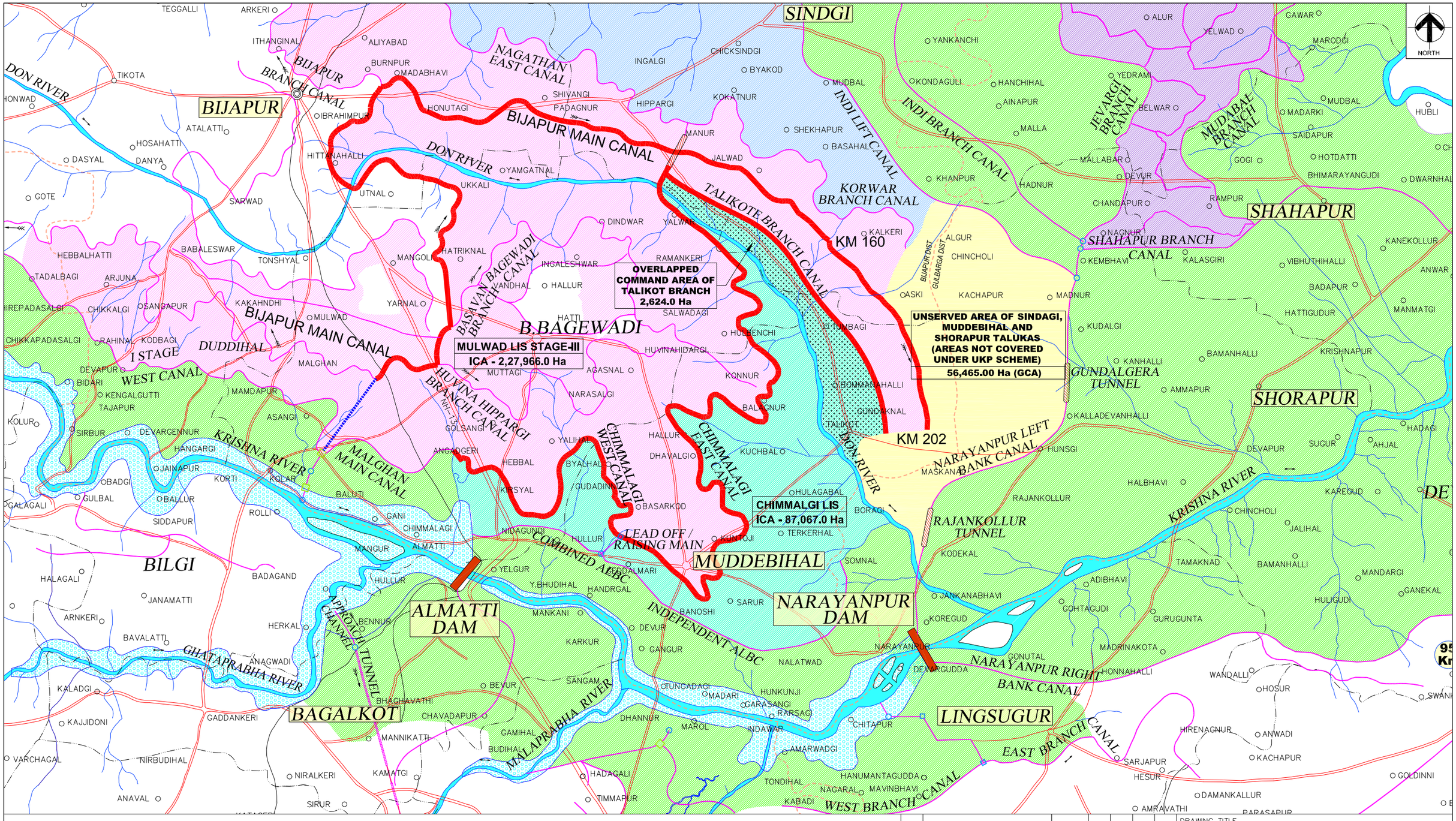
To

Shri .K.N. Srivastava
The Managing Director
Krishna Bhagya Jala Nigam Ltd.
PWD Office Annexe,3rd floor,
K.R. Circle
Bangalore-560001.

Copy to:-

1. The Secretary, Ministry of Water Resources, Shram Shakti Bhawan, Rafi Marg,New Delhi.
2. Adviser(I&CAD), Planning Commission, Yojana Bhawan, New Delhi.
3. Chairman, Central Water Commission, Sewa Bhawan, R.K. Puram,New Delhi-66.
4. Regional Office, MOEF,Bangalore
5. EI Division, MOEF,New Delhi
6. Guard File.

(Dr. S. Bhowmik)
Additional Director



LEGEND

Boundary: State; District; Taluk .....

Submergence Area; River; Stream .....

Canal; Road; Railway line .....

Rev.	Description.	Date.	Drw.	Dsg.	Chk.	App.
0	For Approval	05.11.15	NK	.	SN	NR

CLIENT

KRISHNA BHAGYA JALA NIGAM LIMITED
(A GOVT. OF KARNATAKA UNDERTAKING)
Regd. Off. : PWD Office Annexe, 3rd Floor,
K.R.Circle, Bangalore–560 001
Tel.: 080– 22277393,22244484, Fax : 080–22219470

CONSULTANT

E I Technologies Pvt. Ltd.
1149, 26th Main. Jayanagar 4th 'T' Block
Bangalore–560 041, India.
Ph.+91.80.40914714, Fax:+91.80.26650912
info@eitech.in • www.eitech.in

PROJECT TITLE

BUDHIHAL - PEERAPUR LIFT IRRIGATION SCHEME
DETAILED PROJECT REPORT

DRAWING TITLE

INDEX MAP OF UPPER KRISHNA PROJECT SHOWING UNSERVED AREAS OF SINDAGI, MUDDEBIHAL AND SHORAPUR TALUKAS (AREAS NOT COVERED UNDER UKP SCHEME)

Date	Drw.	Dsg.	Chk.	App.	Scale.	Drawing Status.
05.11.2015	NK	.	SN	NR	NTS	FOR APPROVAL

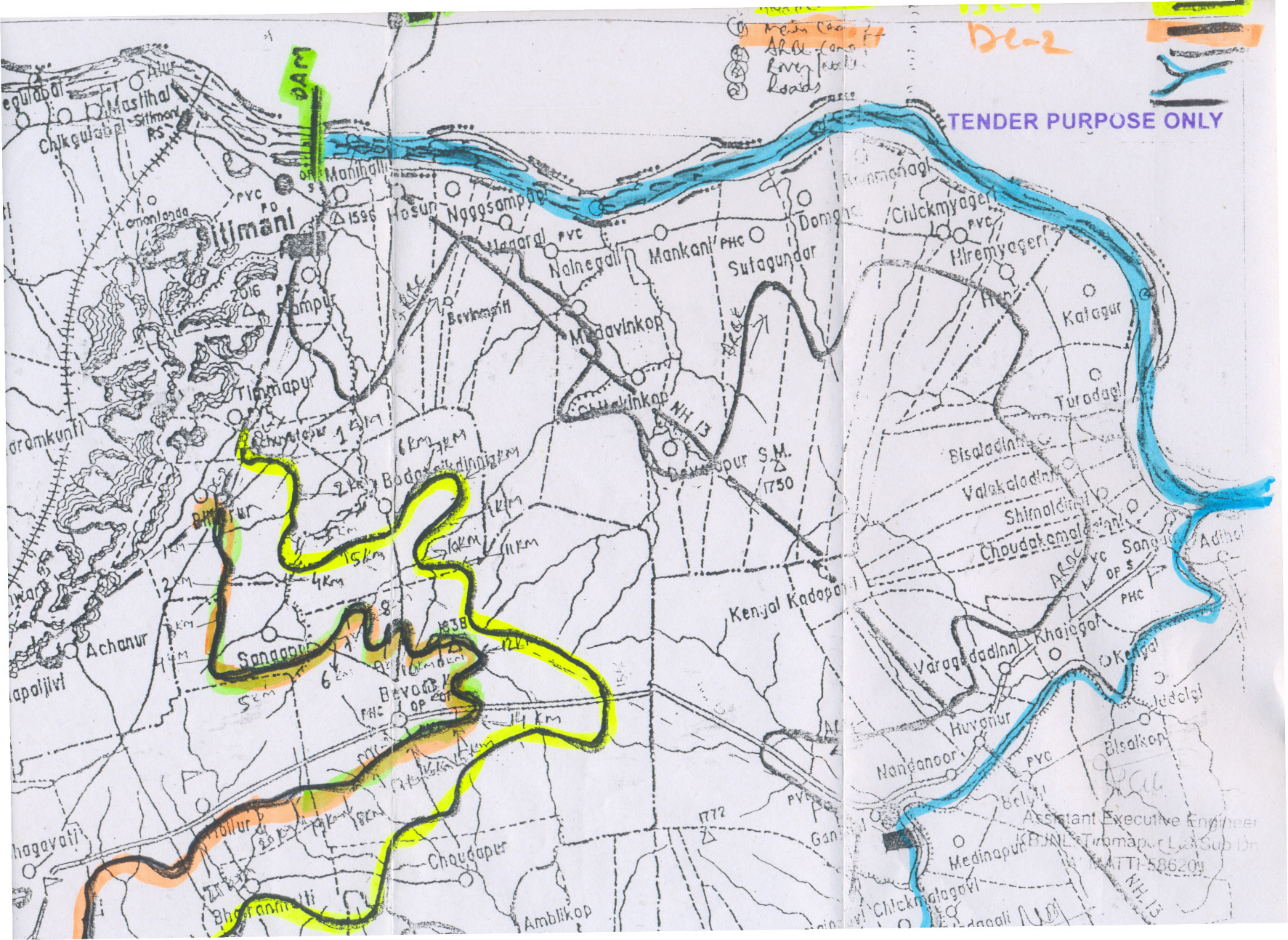
Project No.	Drawing No.	Sheet No.	Rev.
1079	EIT-1079X-WRE-IND-A001	01 of 01	0

Consultant
E I Technologies Pvt. Ltd.
Bangalore

Executive Engineer
KBJNL, ARBC Division
Hunagunda

Superintending Engineer
KBJNL, Dam Circle
Almatti

Chief Engineer
KBJNL, Dam Zone
Almatti



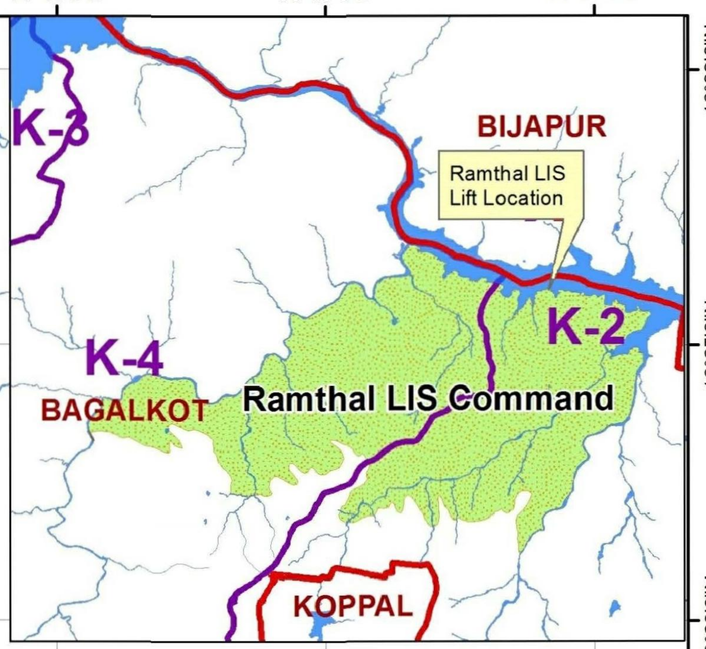
TENDER PURPOSE ONLY
DAM
Siitimani
Chikgulabal
Mastihal
Manihalli
Hosur
Nagsampa
Nagaral
PVC
Nalnegalli
Mankani
PHC
Sutagundar
Domna
Chickmyageri
Hiremyageri
Katagur
Turadagi
Bisaladinni
Valakaladinni
Shirnaldinni
Choudakamaldinni
Sangur
Adihal
Kenjal
Khajagol
Varagadadinni
Huvanur
Bisalkop
Nandanoor
Medinapur
Chickmalagavi
NH 13
Timmapur
Achanur
Sangapur
Bevoor
Choudapur
Amblikop
Kenjal Kadapati
1596
2016
1750
1838
1772
Assistant Executive Engineer
KBJNL Timmapur Lift Sub Dn
ATTI-586201

Ramthal LIS Command Map

N
W E
S

75°40'0"E 75°45'0"E 75°50'0"E 75°55'0"E 76°0'0"E 76°5'0"E 76°10'0"E 76°15'0"E 76°20'0"E

16°30'0"N 16°25'0"N 16°20'0"N 16°15'0"N 16°10'0"N 16°5'0"N 16°0'0"N



Almatti Dam

Text

Narayanapur
Pickup

Ramthal LIS
Lift Location

Ramthal Gravity Command

Stage I

MDC

Main Canal

Stage II

Ramthal LIS Command

MDC

Main Canal

Main Canal

Main Canal

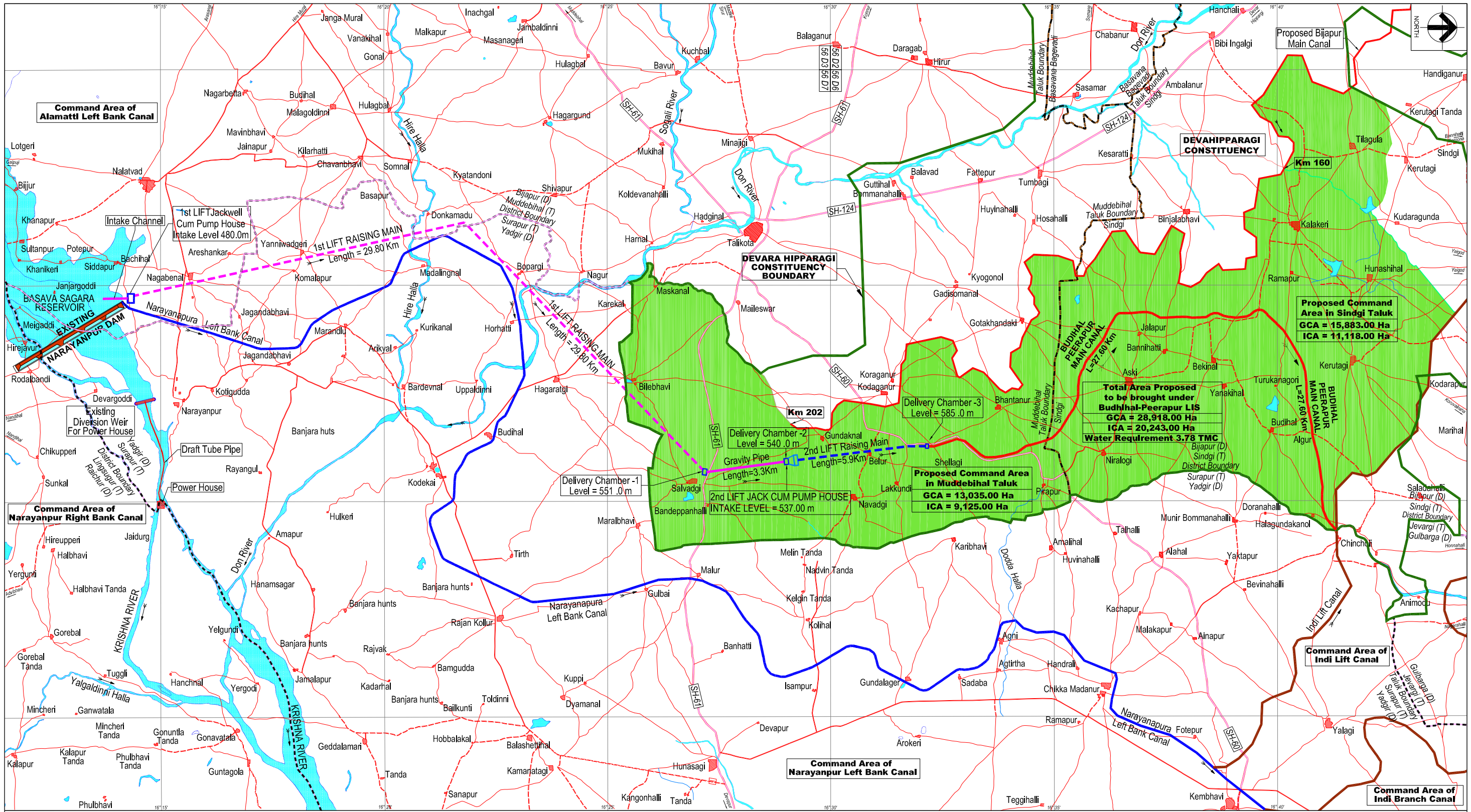
RAMTHAL (MAROL) IInd PACKAGE 2
(WEST SIDE 11,700 ha.)

Hunagund

RAMTHAL (MAROL) IInd PACKAGE 2
(EAST SIDE 12,300 ha.)

Legend

- Water Bodies
- Ramthal LIS Command
- Krishna Sub Basin Boundary
- District Boundary



LEGEND

Roads
National Highway,State Highway,Other Roads.
Unmetalled Roads,Cart track,Foot path.

Railways
Broad gauge with station,Other gauge.

Boundary
Boundary : State,District,Taluk,Forest.

Buildings
Temple,Chatri,Tomb,Mosque,Graves,Village limits,Hut.

Transmissions Lines
Main power line,Power line,Telephone lines

Heights
Relation spot height,Spot height,Traingle station
Contour with value,,Bench mark,

Water Features
River,Reservoir,Canal,Channels,Stream,
Pond ,Well,Tank

Other Features
Climits,Embankment,Culvert,Gate,Broken ground,
Tree,Grass,Wire Fence,Cliff,
Sheet rock,Rocky Area,Boulders.

Rev.	Description.	Date.	Drw.	Dsg.	Chk.	App.
0	For Approval	05.11.15	NK	.	SN	NR

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PROJECT TITLE
BUDHIHAL - PEERAPUR LIFT IRRIGATION SCHEME
DETAILED PROJECT REPORT

DRAWING TITLE
INDEX MAP SHOWING PROPOSED SCHEME BUDIHAL-PEERAPUR LIS

Date	Drw.	Dsg.	Chk.	App.	Scale.	Drawing Status.
05.11.2015	NK	.	SN	NR	NTS	FOR APPROVAL

Project No.	Drawing No.	Sheet No.	Rev.
1079	EIT-1079X-WRE-IND-A003	01 of 01	0

Consultant
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KBJNL, Dam Zone
Almatti

ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ ನಿಯಮಿತ

KRISHNA BHAGYA JALA NIGAM LIMITED.

(A Government of Karnataka Undertaking)

CORPORATE OFFICE : ALMATTI - 586 201 Tel No. (Off.) STD : 08426-281060 Fax : 08426 - 281021
Regd. Office : PWD Office, Annexe, Leftwing, III Floor, K. R. Circle, **BANGALORE** - 560 001.
Tel No. 22244484, 22277393, 22277488, Fax : 080-22219470

3/Kar/May.2014

No:MD/KBJNL/Tech-1/ENV/2013-14/ 189 Booklet

Date 8 MAY 2014

To,

The Additional Director,
Ministry of Environment & Forests,
Regional Office (Southern Zone),
Kendriya Sadan, 4th Block,
Koramangala,
BANGALORE-560 034.

Sir,

Sub: Submission of Half yearly Monitoring Report (Compliance) about fulfilling of conditions stipulated by Ministry Environment and Forests, Government of India for period ending September-2012.
1) UKP Stage-I Phase-II
2) UKP Stage-I Phase-III
3) UKP Stage-II

Ref:1) MOEF Ltr.No:J-12011/41/86-IA, Dt:05-04-1989.
2) MOEF Ltr.No:J-12011/31/96-IA, Dt:18-07-2000.
3) MOEF Ltr.No:J-12011/30/96-IA, Dt:04-10-2000.

* *** *

Upper Krishna Project has been cleared from the Environment angle in the above references. While clearing the project one of the conditions stipulated is to submit half yearly compliance (every March end and September end) to all paras. Accordingly compliance report with enclosures for September-2012 is submitted as below:

1) Compliance to the conditions laid down by the Ministry of Environmental and Forests, while clearing the project from the Environmental angle in the above references.
2) Progress report on Catchment Area Treatment of Almatti and Narayanpur reservoirs for the both year ending September-2012 (One booklet).
3) Status report in Anti Malaria Activities to end of September-2012 (One booklet).
4) Rehabilitation and Resettlement progress report to end of Sept-2012 (One booklet).

Yours faithfully,

Encl: As above.

Managing Director,
Krishna Bhagya Jala Nigam Limited.

PTO

COMPLIANCE TO THE CONDITIONS LAID-DOWN BY MOEF IN I ENVIRONMENTAL CLEARANCE TO UKP STAGE-I

FOR THE HALF YEAI

3) **PART-A SPECIFIC CONDITIONS:**

i) Year wise action plan for treatment of 8300 ha. degraded area under Narayan reservoir, 7825 Ha. under Almatti Reservoir in the catchment area and plantat on 1552.22 Ha. area on the periphery of the two reservoirs should be stri implemented as proposed. These areas should be identified on an index map submitted to the Ministry within three months.

PART-B GENERAL CONDITIONS:

i) Adequate free fuel arrangement should be made to the labour force engaged in t construction work at project cost so that indiscriminate felling of trees prevented.

ii) Fuel depot may be open on the site to provide the fuel (kerosene/wood et Medical facilities as well as recreational facilities should also be provided to t labourers.

LETTER NO. J/12011/31/96-IA-I DATED: 18.7.2000 WHILE ACCORDING
ASE-III. (FOR THE PERIOD ENDING SEPTEMBER - 2012)

NDING SEPTEMBER - 2012

COMPLIANCE

The details of progress of afforestation in catchment area of Narayanpur and Almatti reservoirs are as follows:

Sl No.	Details	Target	Achievement
1.	Afforestation of catchment area of Narayanpur reservoir.	8300 Ha.	7373.72 Ha.
2.	Afforestation of catchment area of Almatti reservoir.	7825 Ha.	8930.95 Ha.
3.	Afforestation of peripheral area of Narayanpur & Almatti reservoir.	1552.15 Ha.	1219.46 Ha.
	Total	17677.15 Ha.	17524.13 Ha.

Progress of 17524.13 Ha. is achieved against the target of 17677.15 Ha.

All the works of Phase-III have been entrusted on tender basis. The contractors are executing the works by engaging heavy earth-moving and other machineries. Labour force required is very minimum. The labourer engaged are from the local villages and they are transported every day from the villages and sent back to their homes in the evening. Separate camps are not established. For the skilled labourers and other labourers, contractors are supplying the fuel. Therefore there is no de-forestation on account of construction activities.

The supply of fire wood by opening fire wood depot has been tried with the help of Karnataka State Forest Industry Corporation a Govt. of Karnataka establishment, but there was no demand from the labourers, since skilled labourers engaged for mechanised works are using kerosene/ Gas for cooking. Local labourers are using agriculture waste as fuel. Medical facilities are extended from project health organisation. Parks, and Gardens created near the Dam site, provide recreational facility to labourers also.

4

iii) All the labourers to be engaged for construction works should be thor examined by health personnel and adequately treated before issuing them permit.

iv) Restoration of construction area including dumping site of excavated mater dam site should be ensured by levelling, filling up of borrow pits, landsc etc., The area should be properly afforested with suitable plantation.

v) Downstram of the dam, flood zoning approach should be done. No settlen should be allowed within flood zone.

vi) Six monthly monitoring reports should be submitted to the Ministry and Regional Office, at Bangalore for review.

4) Officials from Regional Office, MOEF, Bangalore would be monitoring t implementation of environmental safeguards should be given full co-operatic facilities and documents/ data by project proponents during their inspection.

5) The responsibility of implementation of environmental safeguards rests fully wi the Krishna Bhagya Jala Nigam Ltd.,

6) In case of change in the scope of the project, project would require a fres appraisal.

7) The Ministry reserves the right to add additional safeguards measure subsequently if found necessary and to take action including revoking of th clearance under the provisions of the Environmental (Protection) Act, 1986, t ensure effective implementation of the suggested safeguard measures in time bound and satisfactory manner.

Regular screening of labour force is done by project health office and spread of malaria and other communicable diseases is controlled effectively.

The construction area downstream of Almatti Dam is restored by developing ornamental garden. The consultancy has been engaged for the development of ornamental garden. An area of 77 Acres is being developed in the style of Moghal, French and Italian Gardens etc., Remaining work is under progress. A biodiversity park is developed in an area of 80 acres, of which the rock garden covers 30 acres by using local materials. The Krishna garden is developed in an area of three acres. The Lava-Kusha garden developed in an area of Four acres on right bank. An area of about 50 acres is being planted with local tree species. On the whole 214 acres of project area around Almatti dam is being developed with tree parks and landscaping.

The Narayanpur dam is on the downstream of Almatti Dam. Submerging villages have been rehabilitated sufficiently above flood zone based on back water calculations Link roads have been provided. In case of Almatti Dam, flood zone approach is done and no settlement is allowed within the flood zone.

Six monthly progress reports are being submitted regularly to the Ministry and Regional office.
The half yearly progress report for the period ending Sept-2012 submitted by; (i) Deputy Conservator of Forest, Krishna Bhagya Jala Nigam Limited. Forest Divn. Almatti. (ii) Senior Health Officer Class-I, KBJNL. Almatti are enclosed here with.
This is ensured.

The Krishna Bhagya Jala Nigam bears the overall responsibility of implementation of safeguards of environment with active involvement of State's Revenue Department, Agriculture Department, Health Department, Forest Department and Command Area Development Authority.

There is no change in the scope of the project.

No Comments

8) This clearance letter is valid for a period of 5 years from the date of issue of thi letter.

9) A copy of the clearance letter will be marked to concerned Panchayat/ local NGO if any, from whom any suggestion/ representation has been received whil processing the proposal.

10) State Pollution Control Board/ Committee should display a copy of the clearanc letter at the regional office, district industries centre and collector's office Tehsildar's office for 30 days.

11) The project proponent should advertise at least in two local news papers widel circulated in the region around the project one of which shall be in the vernacula language of the locality concerned informing that the project has been accorde environmental clearance and copies of clearance letters are available with th State Pollution Control Board/ Committee and may also be seen at Website of th Ministry of Environment and Forests at http://ww.envfor.nic.in/.

No Comments.

No Comments

A copy of clearance letter is made available to State Pollution Control Board in this regard.

This is done. The details are as under:
1) Samyukta Karnataka (Kannada Daily) dated: 20.9.2000.
2) Prajavani (Kannada daily) dated.20.9.2000.
3) Deccan Herald (English daily) dated: 20.9.2000.
4) Indian Express (English daily) dated: 20.9.2000

Managing Director,
Krishna Bhagya Jala Nigam Ltd.,