PRE-FEASIBILITY REPORT

FOR

Kurha-Vadhoda Islampur Lift Irrigation Scheme, UPSA Sinchan Yojna with CCA 32372 Ha

At

Village Rigaon, Tehsil- Muktainagar, District- Jalgaon, Maharashtra

SCHEDULE: 1 (c), CATEGORY: A (Due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7kms in NNW)

PROJECT PROPONENT

M/s TAPI IRRIGATION DEVELOPMENT CORPORATION, SINCHAN BHAWAN, AKASH WANI CHOWK, JALGAON, MAHARASHTRA-425001

DOC. No: MCPL/EMD/RVP/2020-2021(PFR) AUGUST , 2021

PREPARED BY

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INDEX

CHAPTER - 1
EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

Kurha Vadhoda Islampur lift Irrigation Scheme is in jurisdiction of Tapi Irrigation Development Corporation, Jalgaon. The project is located near Village Rigaon, Taluka- Muktainagar, Dist- Jalgaon.

Jalgaon area has no source of irrigation and suffers due to drought for years together. The scheme envisages lifting of flood water in rainy season from Purna river by constructing Intake structure, Jack well overhead Pump house near village Rigaon Taluka- Muktainagar, Dist- Jalgaon, and conveying water to store in a dam near village Islampur. Construction of dam is also included in the scheme. Irrigation from dam is proposed by Gravity pipe line.

Gross Command Area under this scheme is 40465 Ha Culturable Command Area is 32372 Ha & Irrigable Command Area is 25898 Ha. Thus, the project will benefits 25898 ha irrigable area.

Total 572 ha land is required for this project. Out of which 562 ha is private land, 7.57 ha is Govt. land & remaining 1.98 ha land for rising main is forest land for which final permission from MoEF, Govt. of India is obtained vide letter No. 6- MHB – 030/2012 – BHO/1853 Dated 23.11.2012. Copy for the same is attached as **Annexure-I**. Land required for submergence is 536 ha.

The employment generation potential of the project is approx. 83.84 Lakhs mandays.

This lift irrigation project falls under **Violation Category** as the construction work of the project is more than 50% completed without grant of EC.

The Project falls under Category 'A' as per EIA notification 2006 & it's amendments, due to presence of Maharashtra- Madhya Pradesh Interstate Boundary at 5.7 kms in NNW from Dam site.

Table 1.1: Salient features of the project

Project name	Kurha-Vadhoda Islampur Lift Irrigation Scheme, UPSA Sinchan Yojna with 32372 Ha, Village Rigaon, Tehsil- Muktainagar, District- Jalgaon, Maharashtra by M/s Tapi Irrigation Development Corporation, Sinchan Bhawan, Akash Wani Chowk, Jalgaon, Maharashtra-425001
Location of project	Village- Rigaon, Taluk-Muktainagar, Dist. Jalgaon, Maharashtra. **Dam Site at Islampur :** Latitude: 21°02'14.99"N

	Longitude: 76°24'44.99"E **Lifting Point at Rigaon Village:** Latitude: 20°57'30.00"N Longitude: 76°20'00"E
Topo sheet number	55 C/4,55 C/8, 55 C/12, 55 C/16 55 D/1, 55 D/5, 55 D/9, 55 D/13
Land use	Total 572 ha land is required for this project. Out of which 562 ha is private land, 7.57 ha is Govt. land & 1.98 ha of forest land is involved for rising main pipelines (Permission letter from MoEF&CC is obtained vide letter No. 6- MHB – 030/2012 – BHO/1853 Dated 23.11.2012. Copy for the same is attached as **ANNEXURE-I.**
Total water utilization	3.564 TCM
Total Storage capacity of reservoir under the scheme	77.60 Mcum
Average Rainfall	670 mm
Reserved Forest/Protected Forest	• Machhandar Nath Mandir RF~ 2.6 kms in West from Dam site. • Raipur Reserved Forest~ 2.14kms in NW from dam site. • RF ~ 3.25kms in SE.
Nearest railway station	• Biswa Railway Station is at 8.9 Kms from lifting point in South Direction. • Khumgaon Railway Station is at 16.7 kms from Dam Site in South direction & 11.8 kms in SE from lifting point.
Nearest air port	The nearest airport is Aurangabad Airport which is 150 kms in SW from the project site.
Seismic zone	Zone-III (As per 1893:2002)

1.1 IMPORTANCE OF THE PROJECT

- The drought prone area will get immensely benefitted due to availability of water for irrigation. The project will benefit 25898 ha irrigable area out of which 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon –Jamod & Sangrampur Taluka of Buldhana District.
- The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic prosperity of the region.

- The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times)
- Thus there will be immense financial benefits accruing to the population.
- This increase in agricultural production will also boost the industrial activity especially agro based process industries.
- These will in turn provide employment opportunities to the locals and benefit the people socially as well as financially.

CHAPTER – 02

INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 IDENTIFICATION OF PROJECT

The scheme envisages lifting of flood water in rainy season from Purna river by constructing intake channel, Intake structure, Jack well overhead Pump house near village Rigaon Tal. Muktainagar, Dist - Jalgaon, and a dam near village Islampur for a length of 6845m. The Irrigable command area of Jalgaon Dist. is 8445 ha (32%) and 17453 ha (68%) in Buldhana District, thus total command (ICA) under this scheme is 25898 Ha. Irrigation is proposed from dam by Gravity pipe line.

Chronology of EC at MoEF-

The proposal was earlier submitted to MoEF&CC for grant of TOR in January 2009, TOR was approved in April 2009. Draft EIA was submitted to SPCB in January, 2010 for conducting Public Hearing. The Public Hearing was held in April, 2010 and January, 2011. The Final EIA was submitted to MoEF&CC for grant of EC.

EC was not granted to the project as the case was not pursued further with MoEF&CC, after submission of Final EIA due to non correspondence of earlier consultant with MoEF&CC. However, it may also be noted that almost more than 50% work has been completed but no operation has been started.

The detailed chronology is mentioned below:

Stages of EC	Date
FORM I and PFR submission	7/1/2009
TOR Presentation	16/2/2009
TOR granted	16/4/2009
Baseline Data collection	Nov.2008-Sep.2009
Draft EIA submission	27/1/2010
Conduction of Public Hearing	16/4/2010 and 12/1/2011
Final EIA report submission	7/4/2011

Progress of Lift Irrigation Project % wise is tabulated below:

Sr.No.	Project Components	Construction done	Construction to be done
1	Earthen Dam	60%	40%
2	HR and Spillway	0%	100%
3	Pump House No.1	95%	5%
4	Intake structure	0%	100%
5	Pump House No.2	0%	100%
6	Pump House No.3	85%	15%

7	Machinery Installation	At PH 1&2 -0% At PH 3-60%	At PH 1&2 -100% At PH 3-40%
8	Rising Main	10.784 km	2.356 km
9	Electric Supply Works	85%	15%
10	Distribution Network	0%	100%

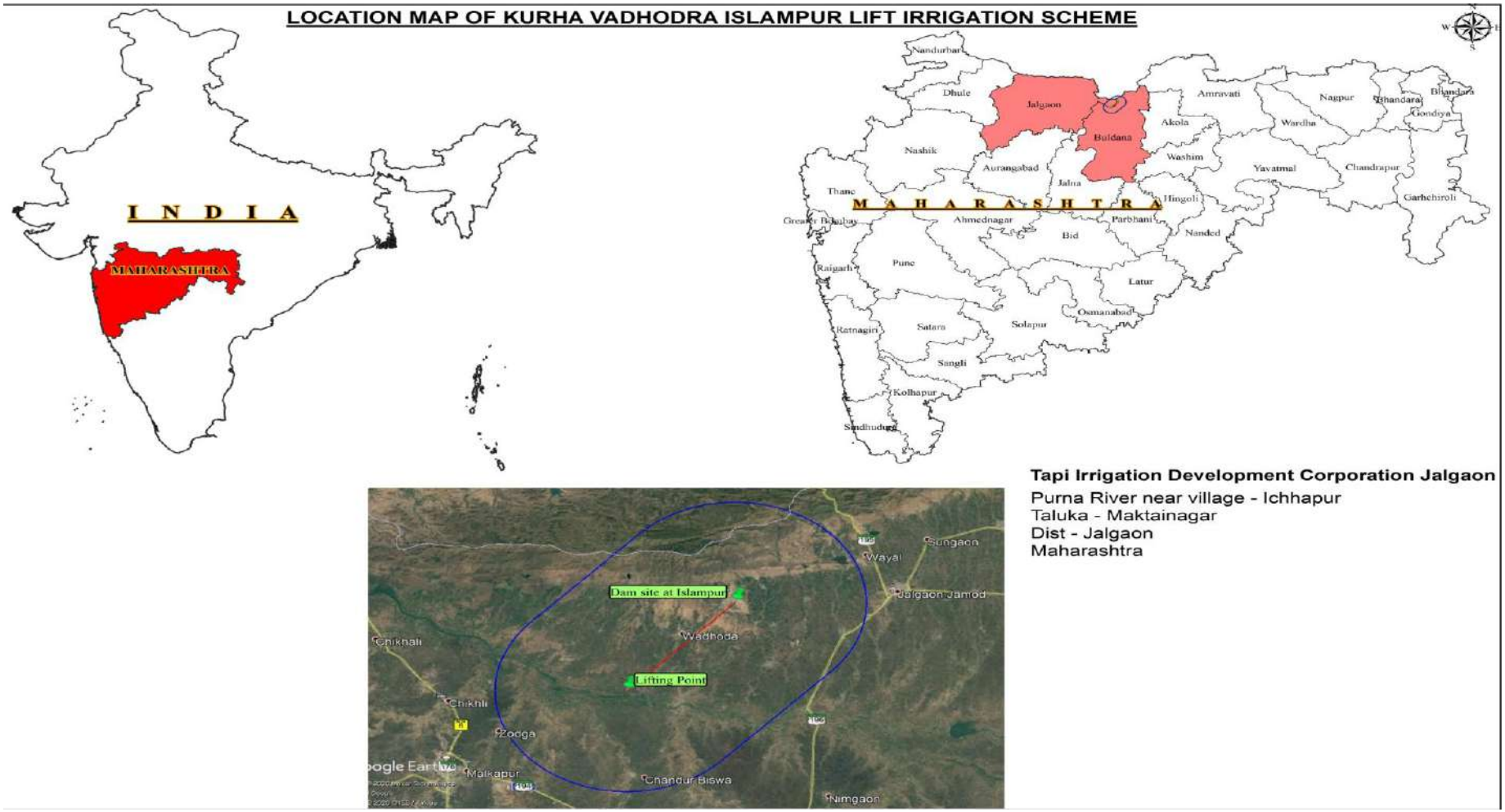

Figure2.1: Location Map of Project site

2.1.1 CATCHMENT AREA, COMMAND AREA

Catchment Area- The catchment area of Islampur Dam is of soccer shaped and classified as good. The total catchment area up to dam site is 8.50 sqkm (3.32 sq miles).

Command Area- Detailed survey of Command Area is carried out through agency on B-1 tender of lift system.

The total command area under this scheme comprises for all 104 villages lies in Muktainagar Taluka of Jalgaon district and Jalgaon-Jamod & Sangrampur Talukas in Buldhana District. The command area is having good network of Village roads, O.D.R. M.D.R. and National Highway No. 6 with proper inter connection with each other. Also a sugar factory at Muktainagar is near command area.

Statement showing G.C.A., C.C.A.& I.C.A. & Benefited No. of Village & Talukas

Benefited Taluka	Benefit Area			Benefited villages
	G.C.A	C.C.A	I.C.A	
Jalgaon District				
Muktainagar Taluka	12889	10311	8249	21
Buldhana District				
Jalgaon-Jamod Taluka	15815	12652	10122	53
Sangrampur Taluka	11761	9409	7527	30
Total Budhana District				
Total	**40465**	**32372**	**25898**	**104**

Total I.C.A. of this scheme is 25898 Ha Villages in command area are well connected each other by road.

2.2 IDENTIFICATION OF PROJECT PROPONENT

Tapi Irrigation Development Corporation (TIDC) was formed with the main objective to cater the ned of water for irrigation in Tapi River Basin. TIDC is responsible for survey, planning, design, construction and management of Major, Medium andMinor Irrigation Projects which depends on Tapi Basin. TIDC is divided into 2 Irrigation Project Circles which are Nashik Irrigation Project Circle (NIPC) situated at Dhule and Jalgaon Irrigation Project Circle (JIPC) at Jalgaon. JIPC consist of 8 divisions i.e. Hatnur Canal Division, Sardar Sarovar Divisional Cell, Waghur Division, Girna Canal Modernization Division I &II, Jalgaon Medium Project Division, Minor Irrigation Division and Design Division Unit.

The TIDC has planned many minor and major irrigation projects on the Tapi River and its tributaries. In the series of irrigation project Design Division Unit of JIPC under TIDC in association with Vidrabha Irrigation Development Corporation have planned Kurha Vadhoda Islampur Upsa Sinchan Yojna, a lift irrigation scheme to resolve the scarcity of water for Taluka- Muktainagar of Jalgaon District and Talukas- Jalgaon Jamod and Sangrampur of District- Buldhana, Maharashtra.

2.3 BRIEF INFORMATION ABOUT THE PROJECT PROPONENT

The project has been proposed to benefit 25898 ha irrigable area, out of which 8249 ha will be of Muktainagar Taluka, (Jalgaon District) & 17649 ha will be of Jalgaon –Jamod & Sangrampur Taluka of Buldhana District.

Total 572 ha land is required for this project. Out of which, 562 ha is private land, 7.57 ha is Govt. land and remaining 1.98 ha land for rising main is forest land for which final permission from MoEF, Govt. of India is obtained vide letter No. 6- MHB – 030/2012 – BHO/1853 Dated 23.11.2012. Copy for the same is attached as **ANNEXURE-I.** Land required for submergence is 536 ha.

"The project falls under Category 'A' of Schedule 1 (c), due to presence of Maharashtra-Madhya Pradesh Interstate Boundary at 5.7kms in NNW, as per the EIA Notification, 2006 & its amendment till date and will be appraised by MoEF&CC, New Delhi".

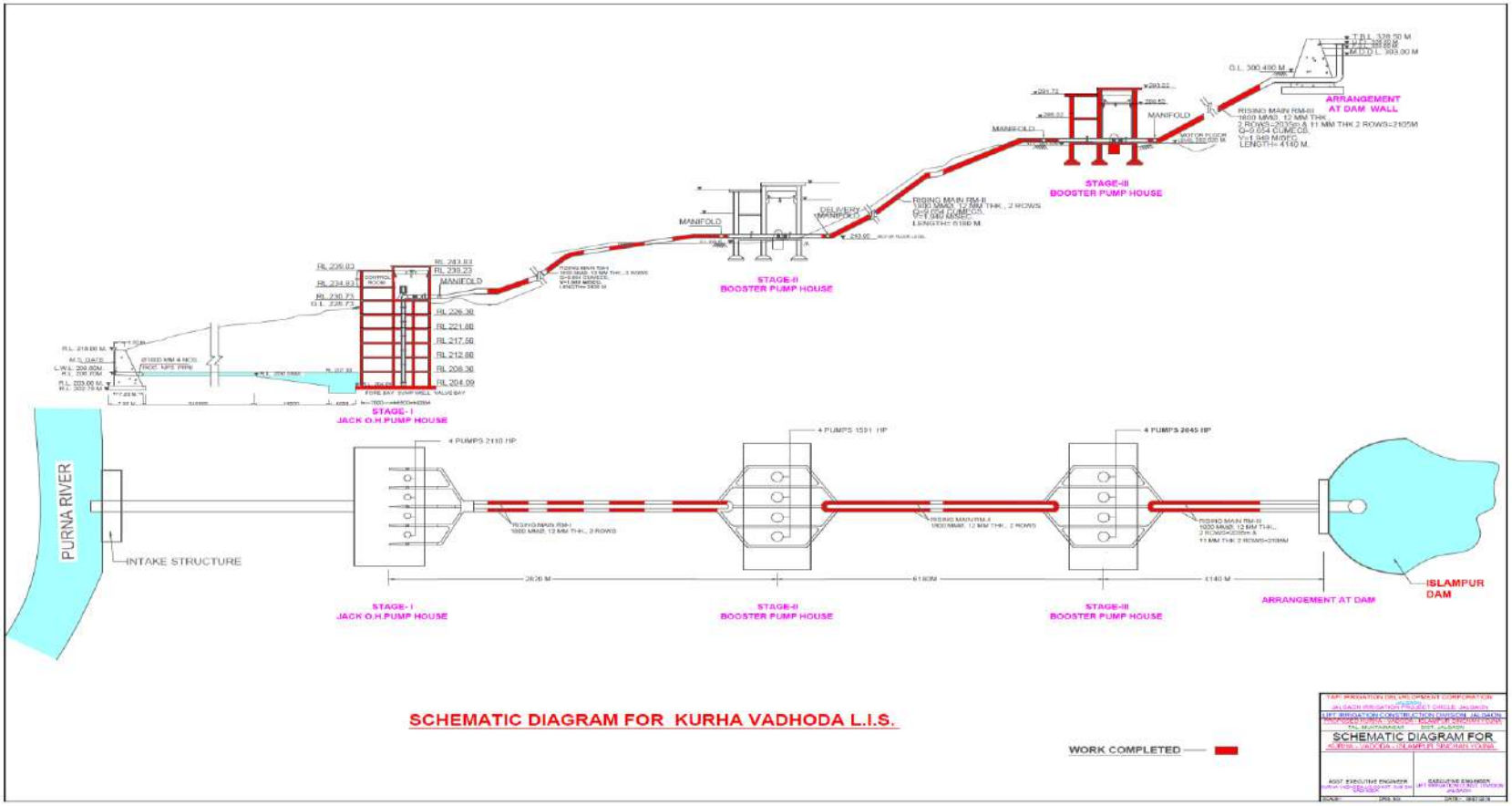

Figure 2.2: Layout of the proposed project site (provided by TAPI)

2.4 NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY OR REGION

The area in Muktainagar Taluka of Jalgaon District & Jalgaon- Jamod Taluka of Buldhana District having no source of irrigation and are suffering to drought from years together. There is a constant and strong demand from farmers and local leaders as well as local representatives from Muktainagar & Jalgaon- Jamod Talukas for providing irrigation to the area. Considering the topography, there is no any other method to provide irrigation facility except Lift Irrigation.

The command area of Muktainagar and Jalgaon-Jamod Talukas of Jalgaon and Buldhana District respectively have uncertain rainfall ranging from 550 mm to 700 mm. Maximum rainfall in this area is in the month of July to August and partly in the month of September due to which some rabi crops are possible only in good years. As there is deep and good fertile soil in the command area in patches, if assured water is made available, crops with higher yield can be grown. Thus providing immense growth in agricultural produce of the area and will improve overall economy of the local population.

Since there is scope for lifting water from Purna river, the scheme Kurha Vadhoda Islampur Upsa Sinchan Yojana is planned to lift flood water, store & then utilize.

2.5 Water availability

The total water utilization under this scheme is 3.564 TCM.

2.5 IMPORTS VS. INDIGENOUS PRODUCTION

The present project does not seek the import possibility.

2.6 EXPORT POSSIBILITY

The present project does not seek the export possibility.

2.7 DOMESTIC/ EXPORT MARKETS

The present project does not seek the export possibility

2.8 EMPLOYMENT GENERATION

After irrigation in general 51 mandays/ha/year will be generated in the field and agro based industries.

Thus, The employment potential generated for 25898 Ha irrigable area will be 1320798 man days per year.

(Source: Detailed Project Report)

CHAPTER - 3
PROJECT DESCRIPTION

3.1 TYPE OF PROJECT INCLUDING INTERLINKED AND INTERDEPENDENT PROJECTS, IF ANY

The project has been proposed for lift irrigation of flood water of river Purna through Islampur Dam. The entire irrigable command area of this scheme is in Muktainagar Taluka of Jalgaon District and in Jalgaon-Jamod & Sangrampur Talukas in Buldhana District which is 25898 Ha. Total 100.928 Mcum (3.564 TMC) water is proposed from Purna river for complete scheme.

- 100.928 Mcum (3.564 TMC) water is proposed to be utilized from flood water in Purna river in monsoon season to irrigate the area.
- There is no Inter State aspect involved and has no other interlinked project.

3.2 LOCATION

The lifting point i.e. Jack well from Purna river falls in Village Rigaon, Tehsil- Muktainagar, District- Jalgaon & Dam site falls in Village-Islampur, Tehsil –Jalgaon & District- Buldhana, Maharashtra.

Village Rigaon is at about 0.7 kms in SSW & Tehsil Muktainagar is at about 30 Kms in WNW respectively from Lifting Point. District Jalgaon- Jamod is at about 12.4kms in ENE from Islampur Dam site.

The site is approachable from:

a) Railway Station:

- Biswa Railway Station is at 8.9 Kms from lifting point in South Direction.
- Khumgaon Railway Station is at 16.7 kms from Dam Site in South direction & 11.8 kms in SE from lifting point.
- Nandura Railway Station is at 18.7 km in SE from lifting point in Rigaon village and at 23.4 kms in SSE from Dam Site in Islampur Village.

b) **Airport**

The nearest airport is Aurangabad Airport which is 150 kms in SW from the project site.

c) National/State Highways:

- NH-6 is at a distance of 12.3 kms in SW, SH-194 is at 15kms in SSE & SH-196 is at 14kms in East respectively from lifting point in Rigaon Village.
- SH-196 is at a distance of 8.9kms in ESE from Dam site in Village Islampur.

Project Coordinates are:

Dam Site at Islampur:

Latitude: 21°02'14.99"N Longitude: 76°24'44.99"E

Lifting Point:

Latitude: 20°57'30.00"N Longitude: 76°20'00"E

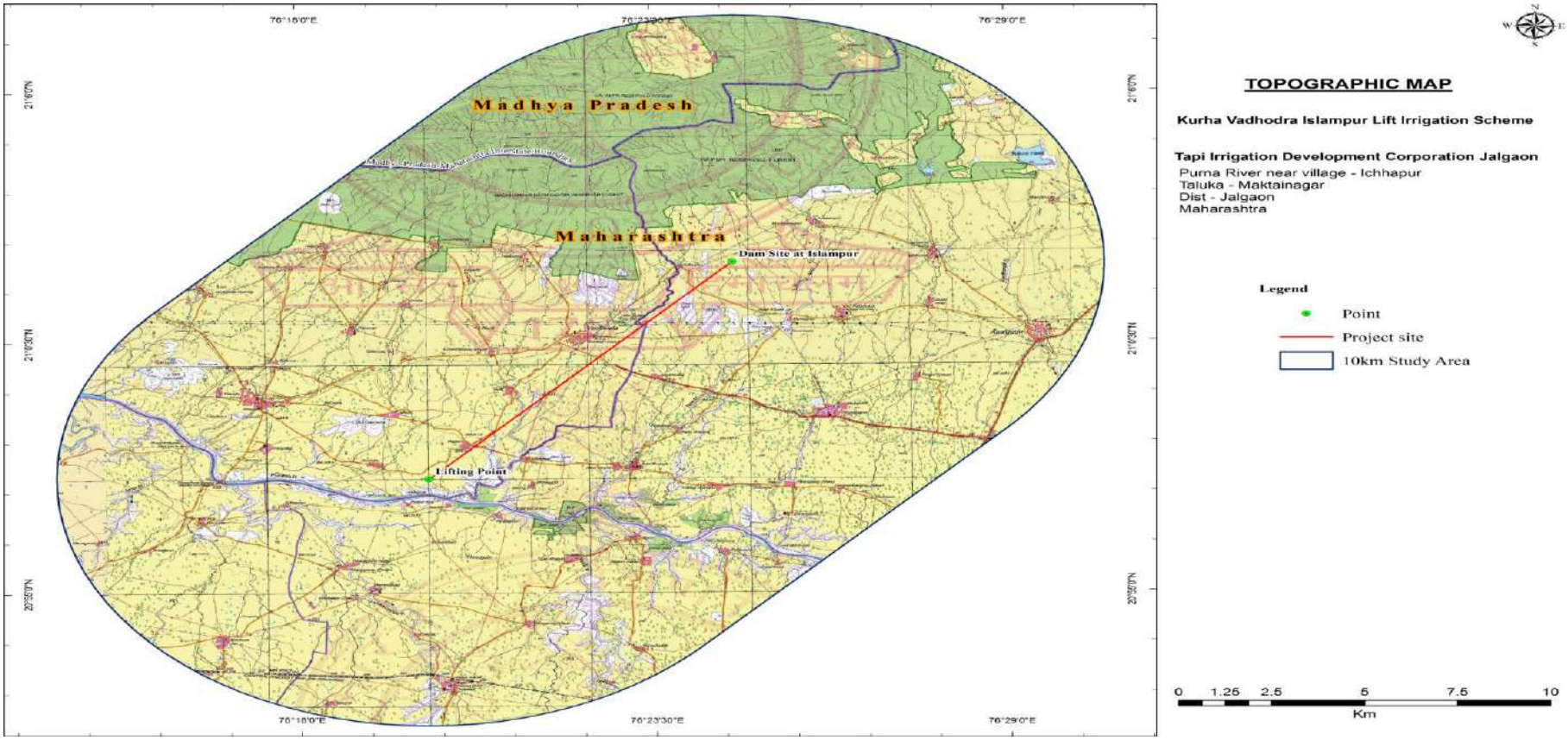

Figure 3.1: Toposheet Map for project site

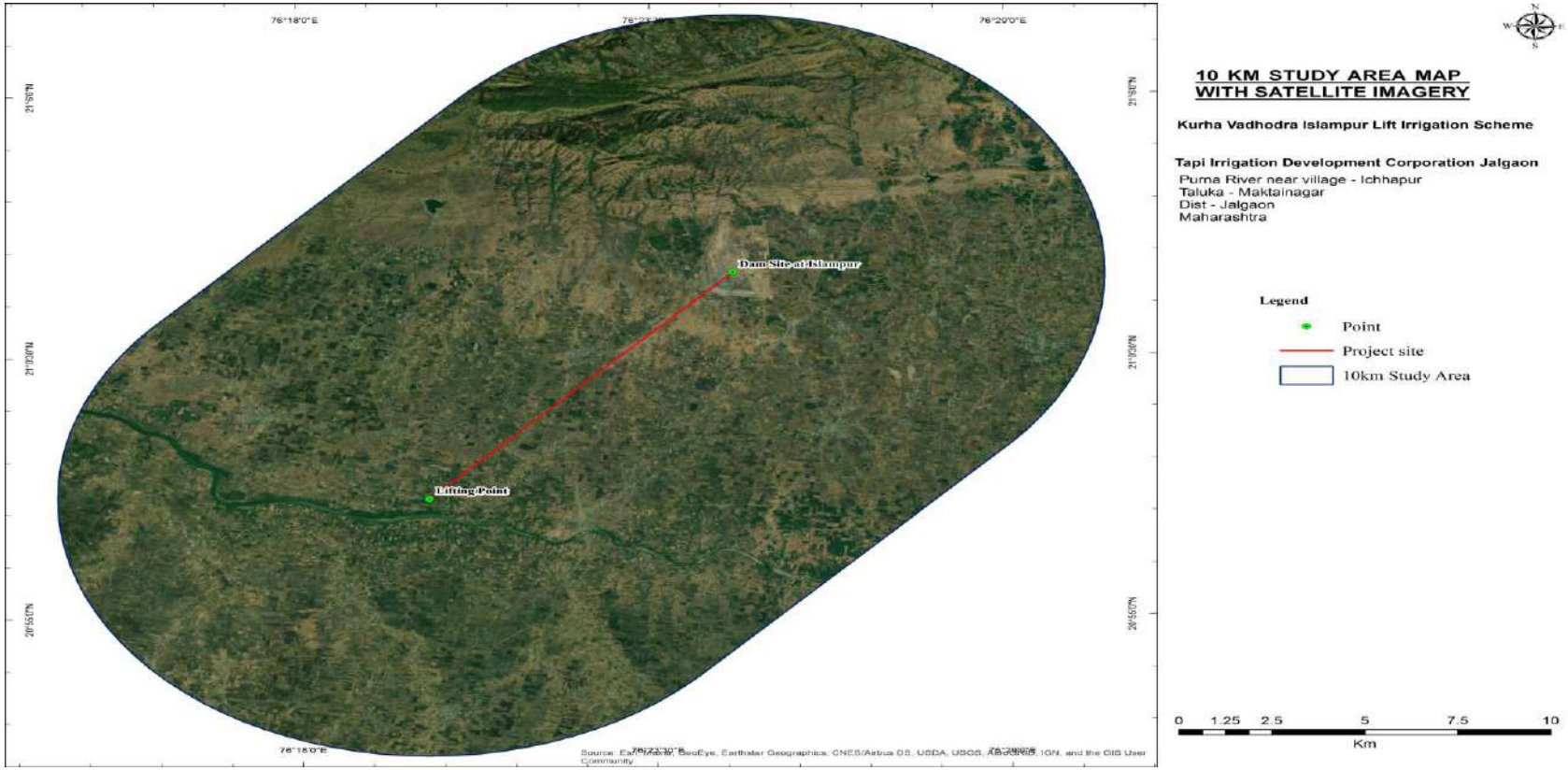

Figure 3.2: Project Site 10km Eco-Sensitive Map

Figure 3.3: 500m Study Area Map

3.3 DETAILS OF ALTERNATE SITES

The proposed Lift Irrigation Scheme will provide irrigation facilities to agricultural land of 90 villages from Muktainagar Taluka of Jalgaon district and Jalgaon-Jamod & Sangrampur Talukas in Buldhana District. These villages are located in arid zone with uncertain rainfall. These villages are located in such a way that they are not receiving much benefits or irrigation form the existing minor project. These villages are situated in the relatively hilly areas. Sufficient water from the river as well as necessary yield from the other local sources like nallas are not available. Hence only viable alternative is to lift water by means of pumps from existing source of water. Such source is available in the form of Purna river. Sufficient quantities of water can be lifted during monsoon season from river. Hence no other alternative site is proposed.

3.4 SIZE OR MAGNITUDE OF OPERATION

- Total Area = 572 Ha
- Gross Command Area = 40465 Ha
- Culturable Command Area = 32372 Ha
- Irrigable Culturable Area = 25898 Ha
- Storage Capacity of reservoir = 77.60 MCum
- Catchment Area = 8.5 Sq.Km
- Submergence Area = 536 Ha

3.5 PROJECT DESCRIPTION WITH PROCESS DETAILS

The layout map of the project is given as Figure 2.2

The components involved as follows:

1. Jack Well Point in Rigaon Village–

a) **Intake Arrangement-** Intake arrangement consists of open channel & Intake structure near village Rigaon connected to Purna River.

b) **Jack Well Over Head Pump House Stage - I** - This pump house is located near village Rigaon. It consists of Vertical Turbine Pumps of 4 Nos. each having 2110 HP capacity to lift 9.654 cumec of water from RL 208.60 m to RL 245.00 m.

c) **Pump House Stage - II & Sump Well** - This pump house is located at 2.82 km from Stage I pump house. It also consists of 4 nos. of 2045 HP HSC pumps. These pumps will boost 9.654 cumec of water from RL 245.00 to 283.128 m.

d) **Pump House Stage - III & Sump Well** - This pump house is located at 6.18 km from Stage II pump house. It also consists of 4 nos. of 1591 HP HSC pumps. These pumps will boost 9.654 cumec of water from RL 283.128 to 326.00 m.

e) Rising Mains for all three Stages - Rising Main of all three stages consists of 1800 mm dia M.S. pipes in 2 rows. Thus each pipe will be fed water by 2 pumps. The pipe length of Stage – I, II and III are having length of 2820 m, 6180 m & 4140 m respectively. Total length of rising main is 13140 m.

2 Islampur Dam - It consists of 6845 m long and 42.40 m (highest section) earthen dam with 80 m long spillway. The gross storage capacity of reservoir is 77.60 Mcum and live storage capacity of the reservoir is 70.92 Mcum. Two outlets for irrigation are proposed at Ch. 4760 m & Ch. 2400 m. Irrigation proposed from these outlets is 8445 ha & 17453 ha respectively. Total 0.828 Mcum water is reserved for drinking purpose.

Requisite soil samples are tested. Accordingly the earthen dam cross section is designed which is vetted by C. D. O. Nashik & sanctioned by Chief Engineer, Tapi Irrigation development Corporation, Jalgaon.

i) Controlling Levels - According to sanctioned Layout & dam section the controlling levels are as below:

Sill Level - 300.00 M

M.D.D.L. – 303.00 M

Full Reservoir Level - 325.50 M

M. W. L. - 326.50 M

T. B. L. - 328.50 M

ii) Storage Capacity- Gross storage capacity of dam is 77.60 Mcum. Live storage is 70.92 Mcum.

iii) Spillway - A spillway of 80 m length is proposed having discharging capacity 174.95 Cumecs.

iv) Head Regulators - Two outlets for irrigation are proposed at Ch. 4760 m & Ch 2400 m. From Outlet at Ch. 4760 m irrigation of 8445 ha is proposed by gravity pipe line. From outlet at Ch. 2400 m irrigation of high level command area of 17453 ha is proposed by lifting water by constructing online pump house at D/S side of Outlet.

Detailed Geological report is attached as **Annexure II.**

v) Season wise utilization from Islampur dam -

Sr. No.	Season	Irrigation Use (Mucm)	Non Irrigation Use (Mucm)	Total for Irrigation + Non Irrigation (Mcum)	Evaporation Losses (Mucm)	Gross Utilization (Mcum)
1	Kharif	25.186	0.268	25.454	1.801	27.255
2	Rabi	66.862	0.268	67.13	1.726	68.856
3	H. W.	2.092	0.268	2.36	2.356	4.716
	Total	**94.14**	**0.804**	**94.944**	**5.883**	**100.827**
	Grand Total Utilization					**100.83**

Silt Load & Dead Storage – Considering silt load from self catchment at rate 6 ha-m/year/100 sq.km & from pumped water sill level was fixed as 300 m at start. Hence Sill level is fixed at RL 300 m.

The total silt load works out as 8.21 Mcum including the silt from the pumped water.

3. 132/33 KV substation & Transmission lines– Electricity supply to lift water is taken from Malkapur Sub Station of Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL). 132 KV transmission line is erected from Malkapur to Bhota sub station, installed at Bhota. From Bhota sub Station 33 KV transmission lines are erected for electric supply to each pump house.

4. Distribution System-

a) From Outlet at Ch. 4760 m– Gravity distribution network is proposed which will irrigate 8445 ha area (ICA).

b) From Outlet at Ch. 2400 m - Back water Lift – From this outlet, lift is proposed to irrigate high level command area. At d/S of outlet, online pump house is proposed. From this pump house rising main of 6000 m length is proposed.

At 6000 m Pump house cum distribution chamber is proposed. From this pump house cum DC, off take of Dy 3 is proposed. From this pump house lifting of water for Dy No. 1 & Dy 2 is proposed.

From rising main of Dy. 1 online pump house for Dy 4 & Dy 5 is proposed.

5. Irrigation is proposed as follows:

S.No.	Particulars	Area	Unit
1	**By Outlet at Ch. 4760 m (Gravity pipe line)**	**8445**	**Ha**
2	**By Outlet at Ch 2400 m i.e. Back Water Lift**		
	By Dy No 1	4006	Ha
	By Dy No 2	5198	Ha
	By Dy No 3	7205	Ha
	By Dy No 4	477	Ha
	By Dy No 5	566	Ha
	Total of Back water Lift	**17453**	**Ha**
	Grand Total	**25898**	**Ha**

6. Machinery Required:

The scheme is for lift irrigation with storage reservoir, so heavy machinery is required. The main works i.e. dam, lift portion, electric supply works are in progress by three separate agencies. There is no any problem of plant & equipment. No Spare material is yet proposed. The procurement of spare material will be indicated during construction if required. Heavy earth moving machinery is required for construction, as there is heavy work involved in the scheme, trucks, tipper's, Pocklain Bulldozer, Rollers, Crane, Tanker etc. are available with the contractors & in the District.

3.6 RAW MATERIAL REQUIRED ALONG WITH ESTIMATED QUANTITY, LIKELY SOURCE, MARKETING AREA OF FINAL PRODUCT/S, MODE OF TRANSPORT OF RAW MATERIAL AND FINISHED PRODUCT

No raw material will be required in the proposed project.

3.7 RESOURCE OPTIMIZATION/RECYCLING AND REUSE ENVISAGED IN THE PROJECT IF ANY SHOULD BE BRIEFLY OUTLINED

No recycling./reuse is targeted under the project. Construction material will be optimally utilized.

3.8 AVAILABILITY OF WATER ITS SOURCE, ENERGY/POWER REQUIREMENT AND SOURCE

3.8.1 Water Requirement

Total water utilization will be 3.564 TCM and the source will be Purna River.

3.8.2 Power Requirement

Electricity supply to lift water is taken from Malkapur Sub Station of Maharashtra State Electricity Distribution Co. Ltd. (MSEDCL). 132 KV transmission line is erected from Malkapur to Bhota substation, installed at Bhota. From Bhota sub Station 33 KV transmission lines are erected for electric supply to each pump house.

3.9 QUANTITY OF WASTES TO BE GENERATED (LIQUID AND SOLID) AND SCHEME FOR THEIR MANAGEMENT/ DISPOSAL

3.9.1 Solid Waste Generation & its Disposal

Sewage and domestic wastewater generated from mobile toilets and wash rooms by use of workers will be treated in septic tanks and disposed in soak pits. The project is likely to increase the water spread area significantly the mitigation measures as part of Environment Management Plan will be suggested to prevent the increased incidence of Vector borne diseases.

CHAPTER-4

SITE ANALYSIS

4.1 Connectivity

a) Nearest Railway Station

- Biswa Railway Station is at 8.9 Kms from lifting point in South Direction.
- Khumgaon Railway Station is at 16.7 kms from Dam Site in South direction & 11.8 kms in SE from lifting point.
- Nandura Railway Station is at 18.7 km in SE from lifting point in Rigaon village and at 23.4 kms in SSE from Dam Site in Islampur Village.

b) Nearest Airport

The nearest airport is Aurangabad Airport which is 150 kms in SW from the project site.

c) National/State Highways:

- NH-6 is at a distance of 12.3 kms in SW, SH-194 is at 15kms in SSE & SH-196 is at 14kms in East respectively from lifting point in Rigaon Village.
- SH-196 is at a distance of 8.9kms in ESE from Dam site in Village Islampur.

4.2 SOCIAL INFRASTRUCTURE

The social infrastructure like educational facilities (primary and higher secondary schools, degree college), drinking water supply, post and telegraph, public transportation and hospitals are by and large are available in the study area.

Nearest Village/City/Tehsil/District	• Village Rigaon is at about 0.7 kms in SSW & Tehsil Muktainagar is at about 30 Kms in WNW respectively from Lifting Point. • District Jalgaon- Jamod is at about 12.4kms in ENE from Islampur Dam site.
Gram Panchayats	• Gram Panchayat Zadegaon is at a distance of 14.2kms in East from lifting point & 11.0 kms in SSE from dam site respectively.
Densely Populated Areas	• Village Rigaon is at about 0.7 kms in SSW & Tehsil Muktainagar is at about 30 Kms in WNW respectively from Lifting Point. District Jalgaon- Jamod is at about 12.4kms in ENE from Islampur Dam site
Hospitals	• Ayushman Hospital is at 15.7kms in WSW & Sub-District Hospital, Malkapur is at 15.8 kms in WSW respectively from lifting point. • Rural Hospital, Jalgaon- Jamod and Dalal Hospital is at 12.3kms in ENE from dam site.
Colleges	• Bapumiya Sirajjodin Arts, Commerce & Science College is at about 6.1 kms in SSE from dam site and 9.8 kms in

	ENE from lift point respectively. • College of Agri Engineering, Jalgaon- Jamod is 14.4kms in ENE from dam site in Islampur village.
Post Office	• Khandvi Branch Post Office is at 10.2 kms in SE from Dam site (Islampur Village) & 15.1kms in ENE from lift point (Rigaon Village). • India Post Office, Ichhapur is at 20.3kms in West from Dam site (Islampur Village) & is at 13.8 kms in NW from lift point (Rigaon Village).
Police Station	• City Police Station, Malkapur is 15.4kms in WSW from lifting point (Rigaon Village). • Police Station Jalgaon- Jamod is at 12.4 kms in ENE from (Dam site Islampur Village)
Reserved Forest/ Protected Forest	• Machhandar Nath Mandir RF~ 2.6 kms in West from Dam site. • Raipur Reserved Forest~ 2.14kms in NW from dam site. • RF ~ 3.25kms in SE.

4.3 LANDUSE AND LAND OWNERS

4.3.1 Land Use

The proposed project will have some changes in land use pattern of the areas where project components are planned Total 572 ha land is required for this project. Out of which 562 ha is private land, 7.57 ha is Govt. land & remaining 1.98 ha land for rising main is forest land for which final permission from MoEF, Govt. of India is obtained vide letter No. 6- MHB – 030/2012 – BHO/1853 Dated 23.11.2012. Copy for the same is attached as **Annexure-I.** Land required for submergence is 536 ha.

The land comprises mostly private land and some government barren land. The present land use of the selected site is un irrigated land. Diversion of land for this project will not have any significant change as far as land use is concerned.

4.3.2 Land Ownership

The designated proposed area belongs to project proponent i.e. Tapi Irrigation Development Corporation.

4.4 EXISTING LAND USE PATTERN

Existing land is mostly used as Jirayat agriculture land. A crop is grown in rainy season only.

The existing (before project) cropping pattern is as follows:

Sr. No.	Name of Crop	Percentage
1	Plantains	1.50%
2	Deshi Cotton	26%
3	T. S. Chillies	1%
4	Kh. Groundnut	13.50%
5	Kh. Pulses	19.50%
6	Kh. Jawar	24.50%
7	Wheat	9%
8	Rabi Jawar	5%
	Total	**100%**

Proposed Cropping Pattern - The crop pattern proposed is based mainly on agro climatic zoning of the soils of the area and as per the crop pattern of Jigaon Medium Project which is in the vicinity of this project. This cropping pattern for Jigaon project is approved by Director of Agriculture, Pune vide letter No. IRR/131/Jigaon/AG 59 Dated 08.09.1990.

Sr. No.	Name of Crop	Percentage
A)	**Two Seasonal**	
1	L. S. Cotton	10 %
2	T. S. Chillies	8 %
3	Turmeric	2 %
	Total For Two Seasonal	20%
B)	**Karif**	
4	Sunflower	10 %
5	Kharif Jawar	20 %
6	Kh. Vegetable	10 %
7	Kh. Ground Nut	20 %
8	Kh. Bajara	10 %
9	Kh. Pulses (U.I.)	10 %
	Total For Kharif	80.00%
C)	**Rabi**	
10	Wheat	15 %
11	Gram	15 %
12	Rabbi Vegetable	10 %
13	Sunflower (Oil Seeds)	20 %
	Total For Rabi	**60%**
	Grand Total	**160.00%**

Copy for the proposed cropping pattern is attached as **Annexure-III.**

4.5 GEOMORPHOLOGY

The District can be divided into three main physiographic divisions i.e., Satpura hill ranges in the northern part with dense forest. Tapi valley consisting of alluvial plain in the central part of the district and Ajanta hill ranges, flanking the hill ridges and small valleys in the southern part of the district.

Tapi is the main river flowing through the district and its major tributaries are Purna in the South and Bhokar, Suki, Morna, Harki, Manki and Gul in the north.

Shortest Distance From Following Particulars:-

Machhandar Nath Mandir RF~ 2.6 kms in West from Dam site, Raipur Reserved Forest~ 2.14kms in NW from dam site and RF ~ 3.25kms in SE are found within 10 kms of study area.

EXISTING INFRASTRUCTURE

Metalled road made by zilla parishad is available in the vicinity.

4.6 SOIL CLASSIFICATION

The soils in Jalgaon & Buldhana district are essentially derived from the basaltic lava flows and are classified as, a) Deep black soils, b) Medium black soils, c) Loamy and sandy soils and d) Forest soils. Deep black soils are observed in northern part of Amalner, Erandol, Jalgaon, Bhusaval and Edilabad talukas.

Medium black soils occur over large areas in the district viz.; the central belt of the wide Tapi valley and southern hills. In Tapi alluvial basin, soils are black alluvial clay occurring in the southern parts of Yaval, Raver, Chopda, Jalgaon, Bhusaval, Chalisgaon, Amalner, and Bhadgaon. Loamy soils are observed in the southern-most part of Amalner, Erandol, Jalgaon and Bhusaval. Sandy soils are observed on the foothills of Satpura ranges and near southern hillocks. Forest soils are dark brown and occur on slopes mainly in the Satpura ranges.

(source: CGWB 2013 report on Jalgaon)

4.7 CLIMATIC DATA FROM SECONDARY SOURCES

Climate: The climate of the district is characterized by a hot summer and general dryness throughout the year except during the south-west monsoon season, i.e., June to September.

Temperature: The mean minimum temperature is 10.8°C and means maximum temperature is 42.2°C.

Rainfall: Jalgaon District receives an average rainfall of about 690 mm . The average annual rainfall for the last ten years 2002-2011 ranges from 648 (Amalner) to 835mm (Chopda) and the same is presented in **Table-4.2**. Average annual rain fall in the district during the year of 2013 was 612 mm.

Table 4.2: Annual Rainfall data (2002-2013) (mm)

Taluka	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Average
Jalgaon	939.70	1192.20	531.50	506.52	1444.10	674.23	422.70	754.10	752.40	735.70	795.32
Bhusawal	788.90	873.90	586.80	535.20	1420.60	565.02	335.00	683.70	821.60	542.20	715.29
Yaval	744.80	970.00	694.00	573.00	1458.40	777.50	458.20	670.00	1057.20	626.60	802.97
Raver	826.20	800.30	728.00	449.00	1232.00	747.30	453.30	614.00	876.20	510.00	723.63
Edlabad	939.50	705.00	732.00	508.00	1306.00	569.70	470.60	757.60	998.80	571.00	755.82
Amalner	530.00	826.00	717.00	398.20	950.80	679.40	506.04	677.60	721.40	478.80	648.52
Chopda	877.40	1064.20	622.00	443.00	1457.00	747.00	555.20	863.80	1025.00	695.20	834.98
Erandol	825.40	950.00	589.00	509.00	1334.10	637.00	663.00	865.00	864.50	686.00	792.30
Parola	691.40	956.30	611.00	562.10	1441.60	627.30	573.00	680.10	817.00	563.90	752.37
Chalisgaon	925.80	1158.00	506.00	379.40	1039.00	531.60	649.80	747.00	823.20	695.80	745.56
Jamner	770.70	994.00	722.00	607.60	1103.60	834.20	585.20	630.20	559.70	516.10	732.33
Pachora	587.20	985.60	566.00	588.90	984.00	536.36	587.10	716.60	886.60	657.20	709.56
Bhadgaon	605.10	1067.00	628.00	662.20	1033.80	481.60	699.20	689.00	773.80	631.80	727.15
Dharangaon	651.50	924.00	745.00	633.80	1425.80	676.10	549.00	752.00	779.00	585.50	772.17
Bodhwada	663.80	765.10	815.50	481.50	1277.20	543.70	556.00	769.00	1064.40	684.90	762.11

(source: CGWB 2013 report on Jalgaon)

CHAPTER – 5

PLANNING BRIEF

5.1 PLANNING CONCEPT

The scheme envisages lifting of flood water in rainy season from Purna river by constructing intake channel, Intake structure, Jack well overhead Pump house near village Rigaon Taluka Muktainagar, Dist - Jalgaon, conveying water by rising main & store in Islampur dam. Construction of Islampur dam is 60 % done & 40% is yet to be constructed. Irrigation is proposed from dam by Gravity pipe line for 8445 ha. & 17453 ha area by back water lift. Total 25898 ha irrigation is proposed.
The scheme is proposed to be completed in the year 2022-23.

5.2 EMPLOYMENT & POPULATION PROJECTION

The proposed project will generate employment opportunities and various developmental activities in the project area. Total 139348 people of 21 villages from Muktainagar Taluka of Jalgaon District & 53 villages of Jalgaon- Jamod Taluka & 30 villages of Sangrampur Taluka of Buldhana District. Proposed project will improve the socio-economic conditions & living conditions of people in the project area.

EMPLOYMENT GENERATED:-

A) During construction of the project-

The direct cost of the Head works and Distributaries System as per revised project report its Rs 209614.36 Lakhs. Considering the labour component as 20%, the amount work out to Rs. 41922.87 Lakhs. The employment potential generated at the rate of Rs. 500/- per day will be 83.84 Lakhs mandays.

B) After construction of project-

After irrigation in general 51 mandays/ ha/ year is generated due to employment in the field and agro based industries. The employment potential generated for 25898 Ha irrigable area will be 1320798 man days per year.

5.3 LAND USE PLANNING

The total area required for the project is 572 ha out of which 562 ha is private land and 7.57 Ha is government land and remaining 1.98 Ha is forest land for which Forest Clearance has already been obtained. Copy of the document is attached as **Annexure-I.**

5.4 ASSESSMENT OF INFRASTRUCTURE DEMAND (PHYSICAL & SOCIAL)

Adequate infrastructure facilities are available in the vicinity of command area and due to the irrigation activities; no extra infrastructure over and above the existing infrastructure is required.

5.5 AMENITIES/FACILITIES

The following site services will be provided:

(i) Office
(ii) Store
(iii) First Aid Centre
(iv) Drinking water shed
(v) Rest shelter

CHAPTER – 6
PROPOSED INFRASTRUCTURE

6.1 INDUSTRIAL AREA (PROCESSING AREA)

Temporary arrangements like site office, rest shelters & approach roads etc shall be provided. No permanent infrastructure is proposed.

6.2 RESIDENTIAL AREA (NON PROCESSING AREA)

There is no proposal of any residential colony as the required manpower will be sourced from local populace. Few highly skilled posts may be filled from outsiders for whom houses will be leased in nearby residential area. Other social infrastructure like housing, schooling and medical facilities area already developed in nearby area, hence, no residential colony/township is envisaged for employees.

6.3 GREEN BELT

The green belt shall be developed as per approved eco-friendly plan and as per CPCB guidelines. The project proponent shall also develop greenbelt in the premises of the schools, hospitals and also carry out the avenue plantation in the vacant areas along roads. The greenbelt shall be developed by planting saplings per year. Indigenous species with the consultation of the State Forest Department shall be planted and maintained.

6.4 CONNECTIVITY

Site is well connected to existing road and rail network. There is no proposal to develop new road and rail links. Existing roads will be used for transporting the material. Maintenance should be done by contractor during construction period.

6.5 DRINKING WATER MANAGEMENT

Total 0.828 Mcum water is reserved for drinking purpose.

6.6 SEWERAGE & SOLID WASTE SYSTEM

Sewage waste generated by use of mobile toilets & washrooms by workers shall be adequately treated/ disposed. The project is likely to increase the water spread area significantly the mitigation measures as part of Environment Management Plan will be suggested to prevent the increased incidence of Vector borne diseases.

6.7 INDUSTRIAL WASTE MANAGEMENT

Not applicable.

CHAPTER – 7
REHABILITATION AND RESETTLEMENT (R & R) PLAN

7.1 REHABILITATION AND RESETTLEMENT (R&R) PLAN

The land is already in possession of the project proponent. Hence, no R&R issue is involved.

CHAPTER – 8
PROJECT SCHEDULE & COST ESTIMATES

8.1 LIKELY DATE OF START OF CONSTRUCTION AND LIKELY DATE OF COMPLETION

The project will commence once Environmental Clearance and other necessary clearances are obtained from the respective departments.

8.2 ESTIMATED PROJECT COST ALONG WITH ANALYSIS IN TERMS OF ECONOMIC VIABILITY OF THE PROJECT

The capital cost of proposed project is estimated as Rs. 842.40 crores.

CHAPTER – 9

ANALYSIS OF PROPOSAL

9.1 FINANCIAL AND SOCIAL BENEFITS WITH SPECIAL EMPHASIS ON THE BENEFIT TO THE LOCAL PEOPLE INCLUDING TRIBAL POPULATION, IF ANY, IN THE AREA

- The project will benefits 25898 ha irrigable area. out of this 8249 ha of Muktainagar Taluka, (Jalgaon District) & 17649 ha is of Jalgaon –Jamod & Sangrampur Taluka of Buldhana District.
- The assured irrigation would lead to increase in agriculture productivity in grains as well as cash crops and thus boost economic condition of the region.
- The existing value of the produce in the command area is Rs. 7366.14 Lakhs for 25898 Ha. After introduction of irrigation, the estimated value of produce in the command area will increase to Rs. 64787.63 Lakhs for 25898 Ha. (An increase of more than 9 times)
- Thus there will be immense financial benefits accruing to the population.
- This increase in agricultural production will also boost the industrial activity especially agro based process industries.
- These will in turn provide employment opportunities to the locals and benefits the people socially as well as financially.
- B. C. Ratio is worked out as 1.86 which is more than 1.50. Hence the scheme is financially economical. I.R.R. is works out as 15.27%.

In view of the above, the proposed Lift Irrigation Project of ***M/s Tapi Irrigation Development Corporation (TIDC),*** is technically feasible and financially viable.

We request MoEF&CC to grant Terms of Reference to the project for conducting EIA.