

# **Draft Summary of Environmental Impact Assessment Report**

*for*

Command Area Development Under Lakdi-  
Nimbodi Lift Irrigation Schemes having  
11154 Ha CCA, A/P Kumbhargaoon,  
Taluka – Indapur, District – Pune,  
Maharashtra.



## ***Prepared for:***

Water Resources Management, Maharashtra,  
Irrigation Department (SLTAC-II)  
Ujjani Canal Division No. 8, Gurunanak Chowk, Solapur.

## ***Prepared by:***



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QCI-NABET Accredited EIA Consultancy MoEFCC Recognized Laboratory.

## SUMMARY AND CONCLUSIONS

### Aim of the Project

The aim of the project is to increase the production of agriculture and improve the living standards of farmers in the designed command area of Baramati and Indapur *Taluka* of Pune District (Maharashtra), by providing irrigation to the water scarce villages through lift irrigation from the Ujjani reservoir. This will lead to the utilization of limited water resources efficiently and ensure equitable assured water supply to the command area.

### Project Profile

Ujjani Canal Division No. 8, Solapur under Water Resource Department, Government of Maharashtra has proposed the Lakdi- Nimbodi Lift Irrigation Scheme (LIS) to irrigate an area of 11,154 Ha of Culturable Command Area (CCA) by utilizing the water from the Ujjani Reservoir located on Bhima River near A/P Kumbhargaon. The rising main for phase-1 of the LIS is proposed at a head of 50.10m whereas rising main for phase-2 is planned at a head of 51.20 m and to lift at a maximum head of 73.20m through closed pipe irrigation to feed 4337 Ha Irrigable Command Area (ICA) from 10 villages of Indapur *Taluka* and 2913 Ha (ICA) of area from 7 villages of Baramati *Taluka* making total irrigable area of 7250 Ha. The water consumption under this scheme is proposed to be around 0.90 TMC (25.484 MCM) from the reservoir of Ujjani dam on Bhima River.

### Location

The project area lies in Pune district. The source of supply of water is chosen to be from the Ujjani reservoir which will be lifted at A/P Kumbhargaon, *Taluka* Indapur, District Pune.

### Land Requirement

The total area to be covered under this scheme is 11154 ha (CCA), of which 7250 ha (ICA) for the 17 villages selected under this scheme scarce water. The CCA area has a small

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forest land too of ~81 ha but no construction of any component will be taking place, so no forest land is required to be acquired.

Government/Private Land:

Project would require 34.22 ha of private land of CCA which would include purely private land for construction of pump house, distribution chambers, rising mains, etc. the pipeline to be laid will be roughly 1m below average ground level.

### **Reservoir**

No reservoir study is required as the water will be lifted from the Ujjani reservoir.

### **Study Area**

The study area consists of a 10 km impact area from all the components of the LIS scheme including that from the pump house no.1.

### **Environmental Baseline Status**

The baseline study for the project has been ascertained based on the primary data and the secondary data collected from the various sources. Secondary data has been presented in terms of meteorology, geology, geomorphology, groundwater, cropping pattern, socio-economic parameters, etc. Whereas primary data was collected for soil, surface & groundwater, noise, vegetation, and air.

Data has been presented in the EIA report in detail. It has been observed that there is vast scope for agriculture in this area but due to scarcity of water and low groundwater levels the agriculture efficiency and type of crop is not found to the mark. Vegetation found as per the land use landcover present in the study area is comprised of scattered small patches of agricultural crop fields as per the availability of water to them. The data of the same has been presented in EIA report and the map given in below sections.

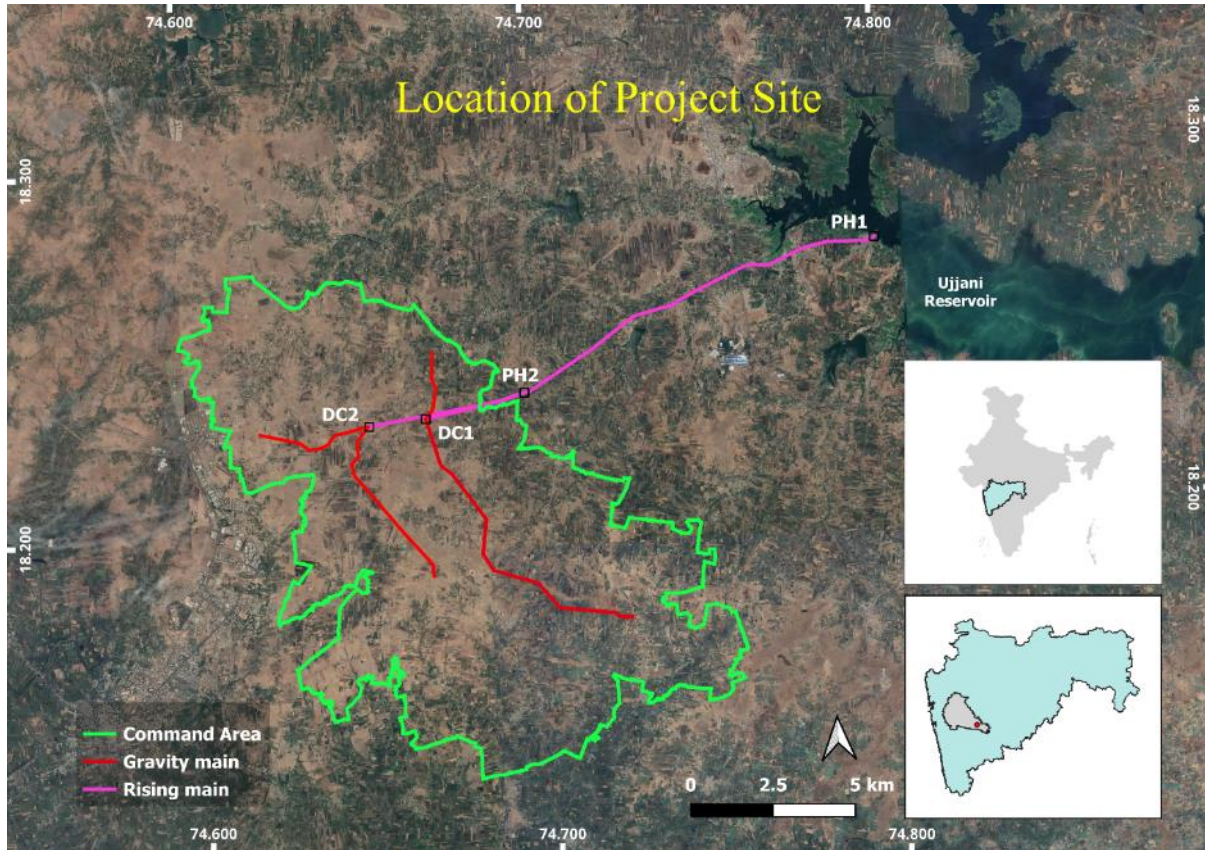


Figure 1: Location on Google imagery of the proposed site

## Socio Economic Profile of the Study Area

The project area is spread in Pune district of Maharashtra. Water to be provided for irrigation will be lifted from A/P Kumbhargaoon and with the help of two pump houses, two distribution chambers, rising mains, gravitational mains will be provided to the 17 villages of Baramati and Indapur talukas. Below table shows the villages to be benefitted from this scheme.

Table 1: List of beneficiary villages of the proposed study area.

Sr.	Taluka	Village Name	Total irrigable area (ha)
1	Baramati	Katfal	744.8
2	Baramati	Saawal	904.9
3	Baramati	Jainakwadi	477.7
4	Baramati	Paarwadi	208.8

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5	Baramati	Kanheri	257.8
6	Baramati	Katewadi	216.1
7	Baramati	Gadikhel	102.4
	Total area of Baramati Taluka		2913
1	Indapur	Lamjewadi	238.1
2	Indapur	Shetfalgadhe	138.8
3	Indapur	Mhasobachiwadi	756.6
4	Indapur	Nirgude	665.2
5	Indapur	Lakdi	740.7
6	Indapur	Nimbodi	455.5
7	Indapur	Shindewadi	543.8
8	Indapur	Kazad	513.7
9	Indapur	Vaysewadi	162.3
10	Indapur	Dhaygudwadi (Akole)	122.7
	Total area of Indapur Taluka		4338
	<b>Total Area</b>		<b>7250</b>

*Source: Detailed project report*

Demographic profile, literacy, occupation pattern, per capita income, socio-economic profiling of the project benefitted villages on sample survey basis, brief description of villagers' opinion / perception regarding the project, have been presented in present EIA report in details.

The analysis shows a clear picture that construction of this project will be able to bring improved quality of life paving a path of development for the present and future generations. This project may open a new avenue for giving an opportunity to the people for accessing their rights on health, education, livelihoods, and other empowerments, whereas the increased yield due to assured irrigation will lead to integrated development of agricultural in the region.

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## Impact Assessment

### Impact on noise and air quality

In a water resources project, air and noise pollution mostly occurs during the project construction phase whereas, during operation phase no major impacts are envisaged.

### Impact on water resources

Improved availability of water to these water scarce villages will lead to reduced extraction of groundwater for irrigation and domestic use thus reversing the groundwater decline in the region. No adverse impact on downstream users is envisaged.

### Muck generation

The muck will be generated during the construction of various components of the project like - pump house, distribution mains, rising mains, gravitational mains, etc. A total of around 411958 cum amount of muck would be generated during the construction of these components of which 80% would be reused for filling the trenches of the pipelines whereas the remaining muck will be used for the construction work of pump house, distribution chambers, etc.,

### Land requirement

The total area for the project is 11154 ha (which is the CCA), this is totally non-forest land. The total land required for construction of various components of the project is about 34.22 ha. The land acquisition is not yet initiated, but the proposal for the same has been submitted to Hon. District Collector of Pune for necessary approval. The bifurcation of the total land requirement of 34.22 ha is as follows:

*Table 2: Details of land requirements*

Project Component	Type of area	Proposed area requirement (in Ha)	Financial provision objective for land acquisition
<b>Titles</b>			
Rising Main Phase 1- and required inspection road (Length – 11.896 km, width – 10.000 m)	Private	11.9	The Right to Fair Compensation and Transparency in Land

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Project Component	Type of area	Proposed area requirement (in Ha)	Financial provision objective for land acquisition
Pumphouse – Phase 2 Manifold, Switch yard, meter room and its adjacent road (Length – 0.215 km)	Private	2.13	Acquisition, Rehabilitation and Resettlement Act, 2013 has been provided. A provision of Rs. 1015.28 lakhs for 34.22 ha area lakhs have been proposed.
Rising Main Phase 2A - and required inspection road (Length – 3.100 km, width – 10.000 m)	Private	3.1	
Rising Main Phase 2B - and required inspection road (Length – 4.820 km, width – 10.000 m)	Private	4.82	
Distribution Chamber 1 Lamjewadi, Taluka – Indapur	Private	0.4	
Access road to Distribution Chamber 1 (Length – 0.26km, Width – 10.000 m)	Private	0.39	
Distribution Chamber 2, Jainakwadi, Taluka – Baramati	Private	0.4	
Access road to Distribution Pond 2 (Length- 0.23 km, width – 10.000m)	Private	0.35	
<b>Distribution system</b>			
Gravity Main-1 and access road to it (Length – 9.903 km, width – 5.00km)	Private	5	
Gravity Main - 2 and access road to it (Length – 2.150 km, width – 5.00km)	Private	1.08	
Gravity Main - 3 and access road to it (Length – 5.687 km, width – 5.00km)	Private	2.84	
Gravity Main - 4 and access road to it (Length – 3.630 km, width – 5.00km)	Private	1.82	
<b>Total</b>		<b>34.22</b>	

*Source: Detailed Project Report*

## Change in cropping pattern

There would be change in cropping pattern, as more area would come under crops because on increase in irrigation intensity.

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## **Floral and Fauna**

No significant impact is envisaged on flora-fauna due to as laying of pipeline is underground. However, 0.9 TMC water will be diverted from Ujjani reservoir and the migratory waterbirds may get affected during the low rainfall year.

## **Social Benefits**

Improved water availability for irrigation and drinking purpose will obviously have positive impact on all socio-economic parameters including health.

## **Environmental Management Programme**

### **Preventive measures for leakages, bursting, and corrosion in pipeline:**

The entire system is a closed conduit for conveyance of water up to the tail end/ farm level. The arrangement for leak detection, prevention of burst of pipes and preventive /control measure for the various components like desilting arrangements, anti-corrosion measures have been prescribed.

### **Muck disposal**

As mentioned above of the 80% of the total muck generated (total muck generated – 411958 cum) will be used at the same place for filling in the trenches of the pipeline to be laid whereas, remaining will be used near/ for construction of pumphouse, distribution chambers, etc.

### **Compensatory afforestation**

The entire project's pipeline has been planned in such a way that it requires only 34.22 ha of private land with no forest land in it as mentioned above. Compensatory afforestation on non-forest land will be undertaken. However, site specific compensatory afforestation shall be prepared and undertaken by State Forest department.



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### **Floral/ Faunal management (Plantation in Command area)**

To improve the green cover in the command area, it is proposed to plant a total of 2600 of tree saplings along a width of 1.5-5m along the plot boundary of pump houses. For doing this a total fund allocation of 32.15 lakhs has been allocated to cover a total greenbelt area of 13.541 ha. The details of species proposed for plantation will be shared in detail in the EIA report ahead.

### **Land Compensation**

As discussed above a private land of 34.22 ha would be required for constructing the various components of the project.

### **Awareness and training of farmers**

The micro-irrigation by lift *i.e.*, pumping is going to be done for the whole of this command area, being introduced on large scale. For this it is felt to create awareness amongst the farmers for dissipation of information, training and motivated to adopt the new technology. This will be done by Water User Agency (WUA), panchayat and Jan Pad level. Herein they will be made aware on limited use of chemical fertilizers and increased use of bio fertilizers.

### **Environmental Monitoring Programme**

The environmental monitoring program for the project will be undertaken to meet the following objectives:

- To monitor the environmental conditions of nearby area
- To check whether mitigation and benefit enhancement measures have been adopted and are proving effective in practice

Plan for air, noise, surface and ground water, soil, land use/ land cover, and ecological monitoring have been suggested with proper fund provisions been accordingly.

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## **Financial Requirement**

A financial requirement of Rs. 34810.63 lakhs have been assessed for various activities of the project phases which are tabulated in detail in the EIA report ahead.