

# Pre-Feasibility Report

For

**M/s Brahmagavhan Lift Irrigation Scheme- III,  
Near old Lakhampur Village, Tal. Gangapur,  
Dist. Aurangabad (MH)**

By

**Minor Irrigation Division No.1,  
Sinchan Bhavan Area, Jalna Road,  
Aurangabad (MH)**

**Prepared By**



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## Chapter-1

### Executive Summary

The proposed project M/s Brahmagavhan Lift Irrigation Scheme - III is a major project being undertaken by Godavari Marathwada Irrigation Development Corporation (GMIDC) on Jayakwadi reservoir in Godavari Basin for Drought Prone Areas. Agriculture is major occupation in the study area. To minimize the drought prone situations in the area, GMIDC has proposed M/s Brahmagavhan Lift Irrigation Scheme-III; this will provide stability in agriculture practices and improving the per capita income of people. The co-ordinates of the proposed site is Longitude 19°39'0.36" N and 75°03'23.04" E Latitude near Old Lakhampur, Tal. Gangapur, Dist. Aurangabad (MH).

This scheme is proposed on backwater of Jayakwadi reservoir near old Lakhampur Village of Gangapur Taluka in Aurangabad District. The total water Lift by this Irrigation Scheme will be 55 Mm<sup>3</sup>. It is planned to bring around 10,000 Hectare Irrigable Command Area of 43 Villages of Gangapur Taluka in Aurangabad District under irrigation. The water will be utilized for irrigation purpose by adopting drip irrigation with piped conveyance system. The project does not involve submergence and no forest land is requiring for the project. However the Jayakwadi Bird sanctuary is about 295 m and Eco-sensitive Zone is at a distance of 150 m approximately from the project site (Old Lakhampur) hence project attracts general condition as mentioned in the Environmental Impact Notification 2006 and its subsequent amendments and falls under 'A' Category.

- Manpower: Construction Phase- 20 Nos. workers  
Operation Phase – 05 Nos workers
- Power Requirement: 33 KV Line/6.6 KV  
For PUMP House-1: 5 PUMP OF 1016 HP  
For PUMP House-2: 4 PUMP OF 650 HP
- Project Cost: Rs. 426.26 Cr.

## Chapter-2

### Introduction of the Project/ Background Information

#### 2.1 Identification of Project and project proponent

M/s Brahmagavhan Lift Irrigation Scheme- III is being undertaken by Godavari Marathwada Irrigation Development Corporation (GMIDC) on Jayakwadi reservoir in Godavari Basin for Drought Prone Areas. This has promoted and will be funded by Water Resources Department of Govt. of Maharashtra. It is an irrigation Project as under Schedule 1 (c) as per EIA notification 2006 and its subsequent amendments.

#### 2.2 Brief Description of nature of the project

The proposed project is an irrigation project. The proposed Brahmagavhan Lift Irrigation Scheme- III, will lift 55 Mm<sup>3</sup> water from Jaykwadi Backwater, near Old Lakhampur, Tal. Gangapur, Dist. Aurangabad by constructing Pump House, the water will be utilized for irrigation purpose by adopting drip irrigation with piped conveyance system. It will irrigate 10000 Ha land and benefited 43 villages of Gangapur Taluka.

No forest land is required for any part of the project and no additional submergence will be caused due to the project. However, Jayakwadi Bird Sanctuary is at a distance of 295 m approximately from the proposed project site (Pump house).

#### 2.3 Need for the project its importance to the country

Gangapur Taluka reveals as Drought Prone area in Aurangabad District. Most of the population in project area is dependent on the agriculture practices. This Lift Irrigation Scheme will provide Irrigation facilities to the 10,000 Ha land in 43 villages of Gangapur Taluka, Aurangabad District. Thus improving the agricultural output and increasing the per-capita income of the people of the region.

#### 2.4 Demands-Supply Gap

The total water lifts by this Irrigation Scheme is 55 Mm<sup>3</sup>, which will be utilized for irrigation purpose by adapting drip irrigation with piped conveyance system for 10000 Ha of Irrigable command area.

#### 2.5 Imports vs. Indigenous production

Not Applicable

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## **2.6 Export Possibility**

Not Applicable

## **2.7 Domestic / export Markets**

Not Applicable

## **2.8 Employment Generation (Direct and Indirect) due to the project**

Total 25 Nos workers (Construction Phase: 20 nos + Operation Phase: 5 Nos) are expected to be employed for the proposed project activity.

## Chapter-3

### Project Description

#### 3.1. Type of project including interlinked and interdependent project, if any

Not applicable

#### 3.2. Location (map showing general location, specific location, and project boundary & project site layout) with coordinates

The location of proposed project is at Old Lakhampur, Tal. Gangapur, Dist. Aurangabad (MH). The command area of the proposed project is enclosed as **Annexure III**.

#### 3.3. Details of alternative sites, considered and the basis of selecting the proposed site particularly the environmental considerations gone into should be highlighted

Survey was conducted for the finalizing alignment of rising main for the proposed project. Details of three alternative route of rising main are given below.

#### Details on survey for finalizing alternative route for rising main

- **Proposed Alignment of Rising Main No.1**

This option of alignment has been surveyed and noticed that this alignment is initially about 5 to 7 Km in the Jayakwadi backwater and may causes problem during the construction phase and there are many houses and factories come in route of rising main. As per this alignment, Length of Rising main no.1 is 21.528 Km. Length of rising main no. 2 is 11.732 Km. and total length of rising main is 33.260 Km. The length of this alignment option is the shortest and the design is done such a way that the alignment is kept as straight as possible.

- **Proposed Alignment of Rising Main No.2**

An in-depth survey has been carried out for this alignment. While determine the alignment, care has been taken to avoid villages, settlements and reserved forest areas. As per this alignment, Length of Rising main no.1 is 22.740 Km. Length of rising main no. 2 is 12.212 Km. and total length of rising main is 34.952 Km. The design is done in such a way that the alignment is as straight as possible and the turns are minimized.

- **Proposed Alignment of Rising Main No.3**

This option of alignment has been surveyed and it can be seen from this that the alignment passes through the existing village. If this alignment is actually planned, the housed in the village will be affected. As per this alignment, Length of Rising main no.1 is 21.763 Km. Length of rising main no. 2 is 11.823 Km. and total length of rising main is 33.586 Km

### **3.4. Size & magnitude of operations**

The scheme will lift of 55 Mm<sup>3</sup> of water from Jaykwadi Backwater near Old Lakhampur village Tal. Gangapur, Dist Aurangabad, Maharashtra providing irrigation facility to 10,000 Ha of agricultural lands of Gangapur Taluka of Aurangabad district, thereby facilitates 43 villages of Gangapur Taluka.

### **3.5. Project description with process details (a schematic diagram/flow chart showing the project layout, components of the project etc) should be given.**

Brahmagavhan Lift Irrigation Scheme- III a major project is being undertaken by Godavari Marathwada Irrigation Development Corporation (GMIDC) on Jayakwadi reservoir in Godavari Basin for Drought Prone Areas. This scheme is proposed on backwater of Jayakwadi Project near old Lakhampur Village of Gangapur Taluka in Aurangabad District. It is planned to bring around 10000 Ha (Irrigable Command Area) of land Gangapur Taluka in Aurangabad District under irrigation using drip irrigation system.

The local public representative demanded to start an integrated single lift irrigation scheme for drought prone areas of Gangapur Taluka by using the water available from initially approved but not in working and cancelled private and co-operative lift irrigation schemes. Keeping in view this demand Government of Maharashtra elementally recognized this scheme and approved with a condition that the irrigation will be carried out based on drip irrigation system.

### **General Layout of Irrigation project**

This scheme comprises lifting of water in two stages. First pump house is proposed at old Lakhampur Village situated near backwater of Jayakwadi Dam and towards 5 Km East from Aurangabad – Ahmednagar Highway. First pump house is to be located on the upstream side of Jayakwadi Dam at a distance of about 50 Km. Rising main of stage-1 is designed as 21.78 Km long with pipe diameter of 1580 mm and thickness of 9 mm for carrying the design discharge of 4.09 cumecs whereas rising main of stage-2 is designed as 13.02 Km long with pipe diameter of 1170 mm and thickness of 7 mm for carrying the design discharge of 2.25 cumecs. Thus the total length of rising main comes out to be 34.80 Km.

As per these parameters the elevation difference between the pump house level and the highest level of Command area comes out to be 80.49 m which makes it necessary to lift the water in two stages.

Static head for Stage-I is taken as 33.71 m. It is proposed to install 5 pumps of 1016 H.P. and provide the 21.78 Km long rising main of 1580 mm diameter to convey the water at the first Delivery Chamber which will irrigate 4500 Hectare of Irrigable Common Area. Thereafter, pump house for second stage is proposed at the same location as that of delivery chamber of first stage with the static head of 35.40 m. It is proposed to install 4 pumps of 650 H.P. and provide the 13.02 Km rising main of 1170 mm diameter. The water carried through stage-II rising main is supplied at the second delivery chamber so as to irrigate 5500 ha of ICA. From these delivery

chambers onwards the water is proposed to be supplied using pipe distribution network (PDN) up to the pre-defined command areas. The water to the individual fields is decided to be supplied using drip irrigation system at an expense to be done by the respective farmers. Efficiency for drip irrigation system is considered as 76% for Net Irrigation Requirement (NIR) calculation.

The water requirement from the Jayakwadi reservoir during Kharif season is calculated using Modified Penman Method as 10.07 Mm<sup>3</sup> and that during Rabi season is calculated as 44.77 Mm<sup>3</sup> (10.07 + 44.77 = 54.84 Mm<sup>3</sup>).

### Water Availability for Irrigation Project

Previously nearly about 40 co-operative lift irrigation schemes were sanctioned and allowed to lift water from Jayakwadi reservoir for farmers in Gangapur taluka. Out of these 40 schemes, 11 schemes are permanently shut down and hence their approvals are cancelled. For these 11 schemes around 105.42 Mm<sup>3</sup> of water was allocated. Similarly, other 25 such schemes out of 40 mentioned above, are inoperative since past 10-12 years for which 144.64 Mm<sup>3</sup> of water was allocated. As of now, this reserved water is unused and thus is available as surplus quantum in Jayakwadi reservoir which could be further useful for Gangapur taluka. Out of this surplus quantum of water 85.00 Mm<sup>3</sup> of water is allocated to Brahmagavhan Lift Irrigation Scheme -II. Owing to all such allocations, (105.42 + 144.64 – 85.00 = 165.06 Mm<sup>3</sup>) of water is left off which can be utilized for Brahmagavhan Lift Irrigation Scheme Part-III.

Out of 40 schemes given in above paragraph (Water Permission), 11 schemes are permanently shut down and 25 schemes are inoperative. Out of 4, 2 schemes are operative and 2 schemes are inoperative, details are given below.

#### Name of the schemes (Operative)

Name of the Scheme	Irrigation Capacity
Sanjivani Co-operative Lift Irrigation Scheme (MS)	47 Hectare
Dutt Lift irrigation Scheme, Dahigaon, Tal.Shevgaon Dist. Ahmednagar (MS)	405 Hectare

#### Name of the schemes (Inoperative)

Name of the Scheme	Irrigation Capacity
Ramakrishna Godavari Lift Irrigation Scheme (MS)	4400 Hectare
Yeshwant Lift Irrigation Scheme, Karhetakli, Tal. Shevgaon, Dist.Ahmednagar (MS)	322 Hectare

Water requirement for this scheme as per Modified Penman Method is 54.80 Mm<sup>3</sup>. Government of Maharashtra has sanctioned the use of this water for irrigation under this Lift Irrigation Scheme in Gangapur taluka. Chief Engineer, Planning and Hydrology, Nashik has issued a non-objectionable certificate to use 55 Mm<sup>3</sup> of water for Brahmagavhan Lift Irrigation Scheme Part-III from the above calculated unutilized sanctioned water quantity (165.06 Mm<sup>3</sup>) vide letter dated on 31/05/2017.

**Table 1: Salient Features of the Project**

Sr. No	Particulars	Stage-I	Stage-II	Total
1.	Location of project	Old Lakhampur village, Tal. Gangapur Dist. Aurangabad (MH)		
2.	Latitude	19°39'0.36" N		
3.	Longitude	75°03'23.04" E		
4.	Discharge	4.0917 Cumecs	2.250 Cumecs	
5.	Area irrigated (ICA)	4500 Ha	5500 Ha	10000 Ha
6.	Length of rising main	21780 m	13020 m	34800m
7.	Diameter of rising main (M.S. pipe commercial type)	1580 mm	1170 mm	
9.	Thickness of pipe for rising main	9 mm	7 mm	
10.	No. of rows of rising main	1	1	
11.	Static head for rising main	33.710 m	35.400 m	
12.	Frictional head for rising main	41.030 m	32.720 m	
13.	Total head for rising main	74.740 m	68.120 m	
14.	Pump efficiency	89%	86%	
15.	No. of pumps	5	4	9
16.	H.P. provided	5080 (1016X5) HP	2600 (650X4) HP	
17.	Velocity	2.086 m/sec	2.093 m/sec	
18.	Water utilization	55.00 Mm <sup>3</sup>		
19.	Maximum Water Level (M.W.L)	465.590 m	501.500 m	
20.	Full Reservoir Level (F.R.L.)	463.910 m	501.500 m	
21.	Minimum Drawdown Level (M.D.D.L.)	455.520 m	498.500 m	
22.	F.S.L. in DC	501.500 m	538.600 m	
23.	Method of Irrigation	Drip Irrigation		
24.	No. of beneficiary villages	43		
25.	Supply Source	Backwater of Jayakwadi Project near old Lakhampur, Tal. Gangapur, Dist. Aurangabad.		

ii	Lifting Point	Backwater of Jayakwadi Dam near old Lakhampur					
iii	Feeder Reservoir	Jayakwadi Dam					
iv	Command	Gangapur Taluka in Aurangabad District					
26.	Name of village near the Head Works	Backwater of Jaikwadi Dam Old Lakhampur Tal. Gangapur Dist. Aurangabad					
27.	Location of Head Works						
i.	Lifting Point	Jaikwadi Reservoir near Old Lakhampur Village, Tal. Gangapur, Aurnagabad					
ii	List of Earthquake Zone no	Zone III					
	Delivery point						
28.	Project Area Reference as detailed below	Topo sheet	Jaikwadi Reservoir	Lifting Point	Rising main	Pump House	Command Area
		Topo sheet No.	47 M/1	47 M/1	47 M/2	47 M/2	47 M /2
29.	Index Plan	Attached					
30.	Access to the Project						
i.	Nearest Airport	Aurangabad Airport (MS) 44 Km from Lakhampur village					
ii.	Nearest Railway station	Aurangabad Railway station – 36 Km from Lakhampur Village.					
34.	Interstate aspects of the project						
i	Catchment area of the basin	It is lift Scheme hence no independent catchment is being harnessed					
ii	State-wise/ Country-wise details of catchment area	Not Applicable					
iii	Submergence due to project	No submergence due to project as it is a lift scheme					
iv	Water allocation for the state	Not Applicable					
31.	Proposed annual utilization by the project	55 Mm <sup>3</sup>					
i.	Irrigation (surface) :	10,000 Ha					
ii.	Rabi	100 %					
iii.	Total -	100%					
32.	Estimated life of the project	50 year					

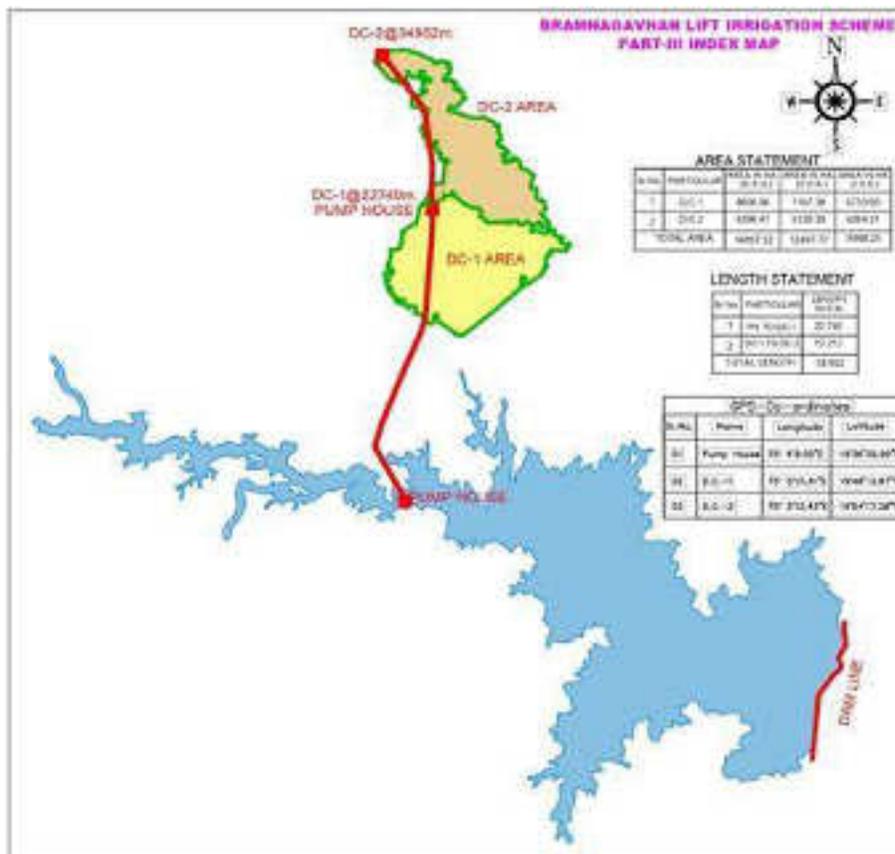
	(years)	
i.	Irrigation (ha.)	10,000 Ha
ii.	Culturable command area (CCA)	12500 Ha
33.	Area under Irrigation (break up)	10,000 Ha
i.	Rabi	
ii.	Annual irrigated area	10,000 Ha
iii.	Intensity of irrigation	100%
iv.	Cost per hectare of gross area irrigated	
v.	Cost per 1000 cum of gross/live storage	Not required as it is not a storage scheme.
vi.	Water utilization (for irrigation only)	55 Mm <sup>3</sup>
34.	Project Performance	
i.	Irrigation	10,000 Ha.
ii.	Head Regulator(s)	Inlet Pump house 1 & 2 Lifting point & Outlet regulators at DC 1 & 2 and Rising Main
35.	Canal System	
i.	Main Canal (Piped)	Piped network as per Design
ii.	Purpose of Canal	Irrigation
iii.	Type	Rising Main Pipe Canal (M.S. Pipe)
iv.	Flow/	Piped system
v.	Lined/unlined	Not applicable
36.	Discharge capacity of the channel above which lining is proposed	Not applicable (Piped Canal)
i.	Type of lining	Not applicable
ii.	Design data	Not applicable
iii.	Rising mains and Entire system	Not applicable
iv.	Distribution system	Distributaries i.e. Minors & sub-minors (piped)

### Cropping Pattern of the Region

The cropping pattern for the scheme which includes 20% Kharif crops, 35% Rabi crops, 20% two seasonal crops and 25% yearly crops. The proposed approved cropping pattern is as under:

Sr.No.	Name of Crop	Percentage
<b>A</b>	<b>Kharif</b>	
1.	Kharif Corn/ Jowar	10%
2.	Soybean	10%
	<b>Total Karif</b>	<b>20%</b>
<b>B)</b>	<b>Rabi</b>	
1.	Wheat	10%
2.	Hybrid Jowar	5%
3.	Vegetables	10%
4.	Gram	5%
5.	Sunflower	5%
	<b>Total Rabi</b>	<b>35%</b>
<b>C)</b>	<b>Two Seasonal</b>	
1.	Chili	10%
2.	Cotton	10%
	<b>Total Two Seasonal</b>	<b>20%</b>
<b>D)</b>	<b>Yearly</b>	
1.	Sugarcane	25%
	<b>Total Yearly</b>	<b>25%</b>
	<b>Total</b>	<b>100%</b>

**Figure 3.1: Schematic Flow Diagram**



**3.6. Raw material required along with estimated quantity, likely source, marketing area of final products, mode of transport of raw material and finished products.**

Not applicable

**3.7. Resource optimization/recycling and reuse envisaged in the project, if any, should be briefly outlined.**

Not applicable

**3.8. Availability of water its source, Energy/power requirement and sources should be given.**

**Water Requirement**

It is proposed to lift 55Mm<sup>3</sup> of water from Jayakwadi Backwater for irrigation purpose.

**Power Requirement**

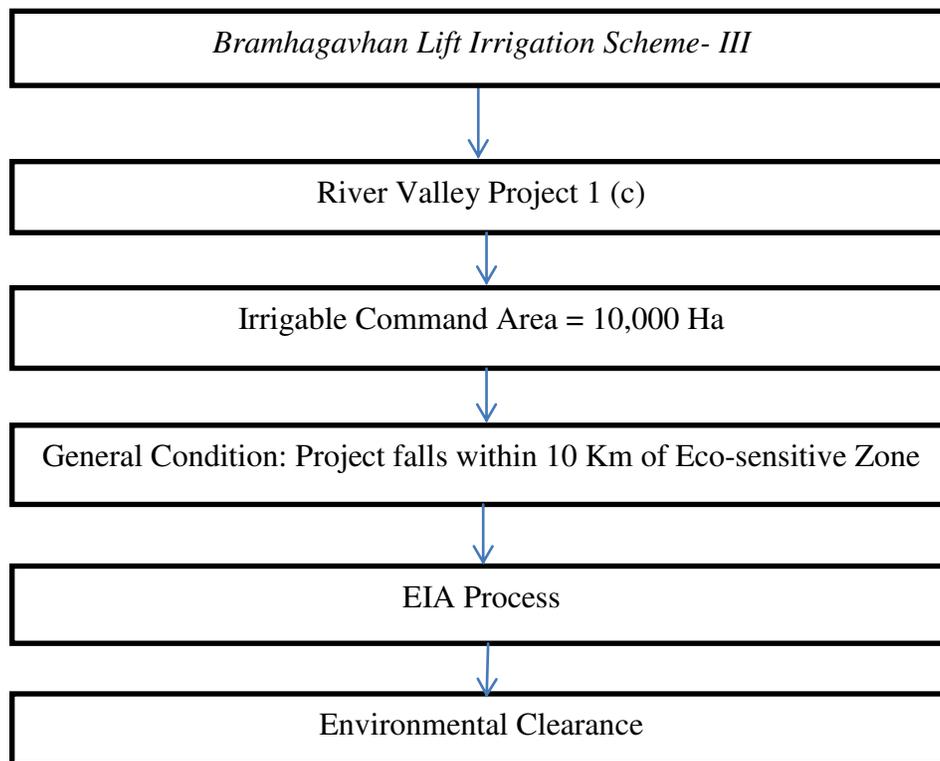
Electricity: 33KV Line/6.6 KV (for Operation phase Source: Maharashtra State Electricity Distribution Co. Ltd. {MSEDCL})

- For PUMP House-1: 5 PUMP OF 1016 HP
- For PUMP House-2: 4 PUMP OF 650 HP

**3.9. Quantity of wastes to be generated (liquid and solid) and scheme for their Management/disposal.**

- Mobile toilet can be used as convenient bathroom usage during construction and operation Phase.
- Domestic solid waste will be disposed to nearby Municipal Disposal Facility.

**3.10. Schematic representations of the feasibility drawing which give information of EIA purpose**



## Chapter-4

### Site Analysis

#### 4.1. Connectivity

This scheme comprises lifting of water in two stages. First pump house is proposed at old Lakhmapur Village situated near backwater of Jayakwadi Dam and towards 5 Km East from Aurangabad – Ahmednagar Highway. First pump house is to be located on the upstream side of Jayakwadi Dam at a distance of about 50 Km. The lifting point is near Old Lakhampur, distance from Lifting Point to Gangapur city is 11.40 Km towards North West. Aurangabad Railway Station: 36 Km towards North East Aurangabad Airport: 44 Km towards North East.

#### 4.2. Land form, land use and land ownership.

The proposed land is private land, partially barren and partially agricultural. This land will be acquired on rental basis from local farmers.

#### 4.3. Topography (along with map)

The topography of area is undulated as well as plain. **Annexure-II**

**4.4. Existing land use pattern (agriculture, non-agriculture, forest, water bodies(including area under CRZ), shortest distances from the periphery of the project to periphery of the forest, national parks, wild life sanctuary, eco sensitive areas, water bodies (distance from, the HFL of the river)). In case of notified industrial area a copy of the Gazette notification should be given.**

The existing land use pattern of the command area is agriculture. The proposed Scheme is on Jayakwadi Backwater, which is 50 Km from Jayakwadi Dam constructed on Godavari River. Jaykwadi Bird Sanctuary is at 295 m approximately from the Project site. Eco-sensitive Zone is at a distance of 150 m approximately away from the command area.

#### 4.5. Existing Infrastructure

The project site (Pump House/ Head Work) is approachable by road and is at a distance of 5 Km from Aurangabad Ahmednagar Highway. Minor roads connected villages within the command area.

#### 4.6. Soil Classification

The major part of the district is covered by black cotton soil or ‘Regur’ formed by the weathering of Deccan Trap Basalt. It is rich in plant nutrients such as lime, magnesia, iron and alkalies on which cotton and dry crops like Jowar, Bazra and turetc flourish. (*Source: Govt. of India, Ministry of Water Resources Central Board- Ground Water Information Aurangabad District, Maharashtra 1791/DBR/2013*)

#### **4.7. Climatic data from secondary sources**

The climate of the district is characterized by a hot summer and a general dryness throughout the year except during the south west monsoon season, which is from June to September while October and November constitute the post-monsoon season. The winter season commences towards the end of November when temperatures begin to fall rapidly. December is the coldest month with the mean maximum temperature of 28.9° C, while the mean minimum temperature is 10.3°C. From the beginning of March, the daily temperature increases continuously. May is the hottest month with the mean maximum temperature of 39.8°C and the mean minimum temperature of 24.6° C. With the onset of the south-west monsoon by about the second week of June, the temperature falls appreciably. . (Source: Govt. of India, Ministry of Water Resources Central Board- Ground Water Information Aurangabad District, Maharashtra 1791/DBR/2013)

#### **4.8. Social Infrastructure available**

There are few educational infrastructures i e. Zila Parishad (Primary to Secondary) schools and Junior college is located within 10 Km of the project site. Also Jagdamba Mata Temple, Mumbadevi Temple is located within 10 Km from the site.

## **Chapter-5**

### **Planning Brief**

#### **5.1. Planning concept (type of industries, facilities, transportation, etc.) Town and Country Planning Development authority classification.**

For M/s Brahmagavhan Lift irrigation Scheme to install 5 pumps of 1016 H.P. and provide the 21.78 Km long rising main of 1580 mm diameter to convey the water at the first Delivery Chamber which will irrigate 4500 ha. of ICA. Thereafter, pump house for second stage is proposed at the same location as that of delivery chamber of first stage with the static head of 35.40 m. It is proposed to install 4 pumps of 650 H.P. and provide the 13.02 Km rising main of 1170 mm diameter. The water carried through stage-II rising main is supplied at the second Delivery Chamber so as to irrigate 5500 ha. of ICA. From these delivery chambers onwards the water is proposed to be supplied using pipe distribution network (PDN) upto the predefined command areas.

#### **5.2. Population Projection.**

Influx of people will be only during construction phase, only few people will be employed for operation and maintenance of the project.

#### **5.3. Land use planning (breakup along with green belt etc.)**

Out of 6 Hectare (Pump House-1, Switch Yard) 33% land will be reserved for Green Belt.

#### **5.4. Assessment of Infrastructure Demand (Physical & Social).**

The proposed project lifting of 55 Mm<sup>3</sup> water from Jayakwadi Backwater and providing irrigation facility to 10,000 Ha areas which will improve the cropping pattern and crop yield.

#### **5.5. Amenities/facilities**

The proposed project lift Irrigation Scheme located on the Jaykwadi Backwater near Old Lakhampur Village of Gangapur Taluka. It is proposed to provide irrigation facility to 10000 ha of lands through drip irrigation in Gangapur Taluka and providing irrigation facility to 43 villages of Gangapur Taluka.

## **Chapter-6**

### **Proposed Infrastructure**

#### **6.1. Industrial Area (Processing area)**

Not applicable

#### **6.2. Residential Area (non processing area)**

Not applicable

#### **6.3. Green Belt**

Out of 6 Hectare (Pump House-1, Switch Yard) 33% land will be reserved for Green Belt.

#### **6.4. Social Infrastructure**

There are few educational infrastructures i e. Zila Parishad (Primary to Secondary) schools and Junior college is located within 10 Km of the project site. Also Jagdamba Mata Temple, Mumbadevi Temple is located within 10 Km from the site.

#### **6.5. Connectivity Traffic and Transportation Road/Rail/Metro/Water ways etc**

This scheme comprises lifting of water in two stages. First pump house is proposed at old Lakhampur Village situated near backwater of Jayakwadi Dam and towards 5 Km East from Aurangabad – Ahmednagar Highway. First pump house is to be located on the upstream side of Jayakwadi Dam at a distance of about 50 Km. The lifting point is near Old Lakhampur and distance from lifting point to Gangapur is 11.40 Km. Aurangabad Railway Station: 36 Km towards North East & Aurangabad Airport: 44 Km towards North East.

#### **6.6. Drinking water management (Source & Supply of water)**

Not Applicable

#### **6.7. Sewerage System**

Mobile toilet can be used as convenient bathroom usage during construction and operation Phase.

#### **6.8. Industrial waste management**

Not Applicable

#### **6.9. Solid waste management**

Domestic solid waste will be disposed to nearby Municipal disposal system.

### **6.10. Power requirement & Supply/Source**

- Electricity: 33KV Line/6.6 KV (For Operation phase Source: - Maharashtra State Electricity Distribution Co. Ltd. {MSEDCL})
- For PUMP House-1: 5 PUMP OF 1016 HP
- For PUMP House-2: 4 PUMP OF 650 HP

## Chapter-7

### Rehabilitation and Resettlement (R & R Plan)

#### **7.1. Policy to be adopted (Central/State) in respect of the project affected persons including home oustees, land oustees, and landless laborers (a brief outline to be given).**

The proposed project does not involve displacement of the families/houses for the project activities. This scheme requires 6 Ha of land to be acquired for construction of Pump houses, Delivery chambers and approach road. The land for the rising mains has to be temporary acquired on rental basis during the tenure of construction period. This land to be acquired on rental basis comes out to be 35 Ha. Neither the forest land nor the land under railways department is affected by this project. No villages or its part needs to be rehabilitated for this project.

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## **Chapter-8**

### **Project Schedule and Cost Estimation**

#### **8.1: Time Schedule for the Project**

The total developmental period of the entire proposed project will be about 24 months.

#### **8.2 Estimated Project Cost**

The total cost estimated for the proposed project is Rs. 426.26 Cr.

## Chapter-9

### Analysis of Proposal (Final Recommendations)

#### 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 Study of Socio economic status of Aurangabad region reveals that the region is a drought prone area. Keeping in view, Govt. of Maharashtra proposed M/s Brahmagavhan Lift Irrigation Scheme- III for Gangapur Taluka.
- The proposed Brahmagavhan Lift Irrigation Scheme will provide irrigation facility to the area and help to enhance agriculture based activities in the region. This will boost the social as well as economic conditions of the farmers.
- Project benefited villages: Total 43 villages in Gangapur Taluka will be benefited through this Lift Irrigation Scheme.
- The project will provide direct and indirect employment opportunity during construction and operation phase with both skilled as well as unskilled labor.

The Benefit Cost Ratio is 1.24 which is well within norms of acceptance & thus the present proposal is submitted & recommended.

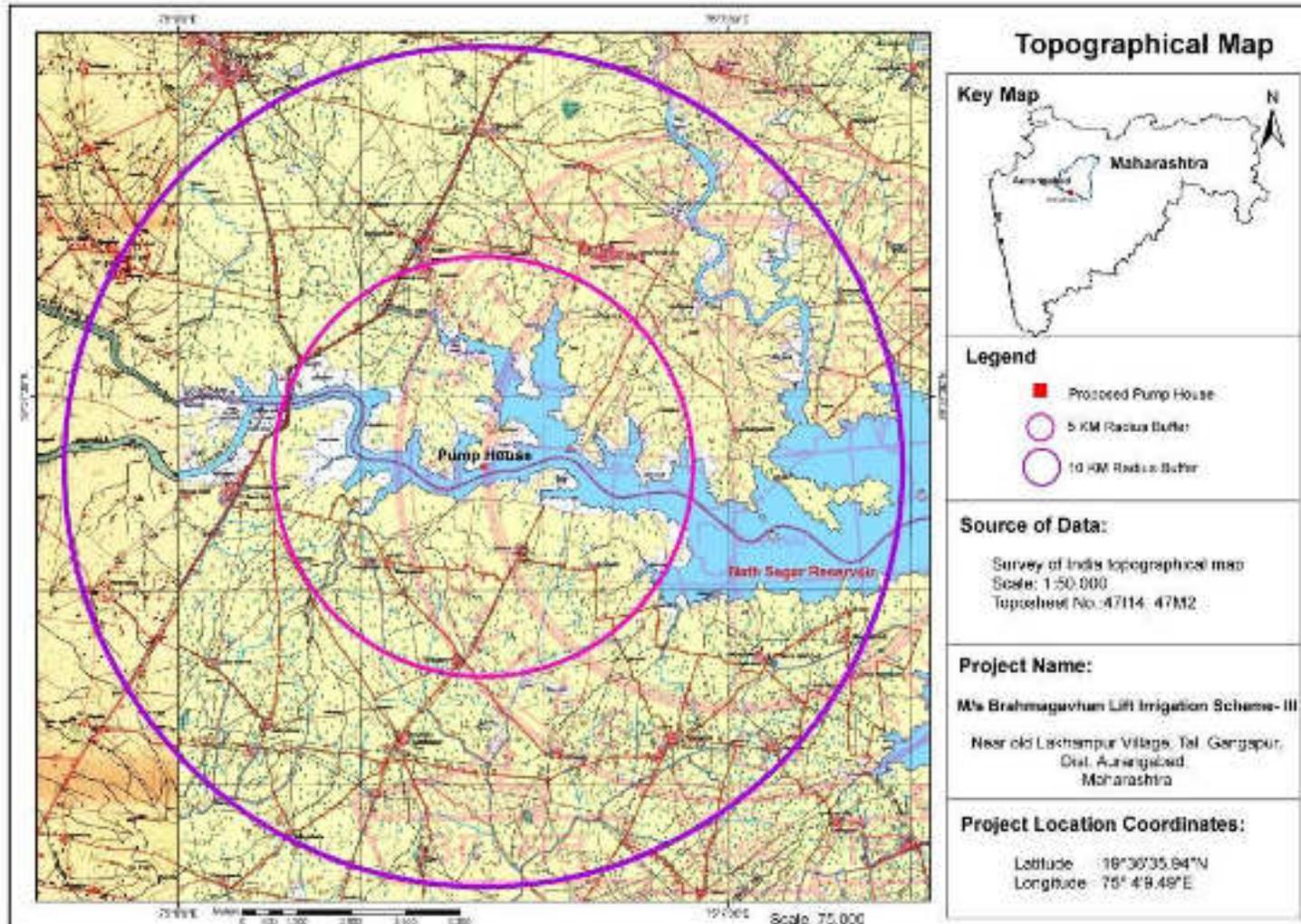
#### Benefit Cost Ratio & Economic Rate of Return

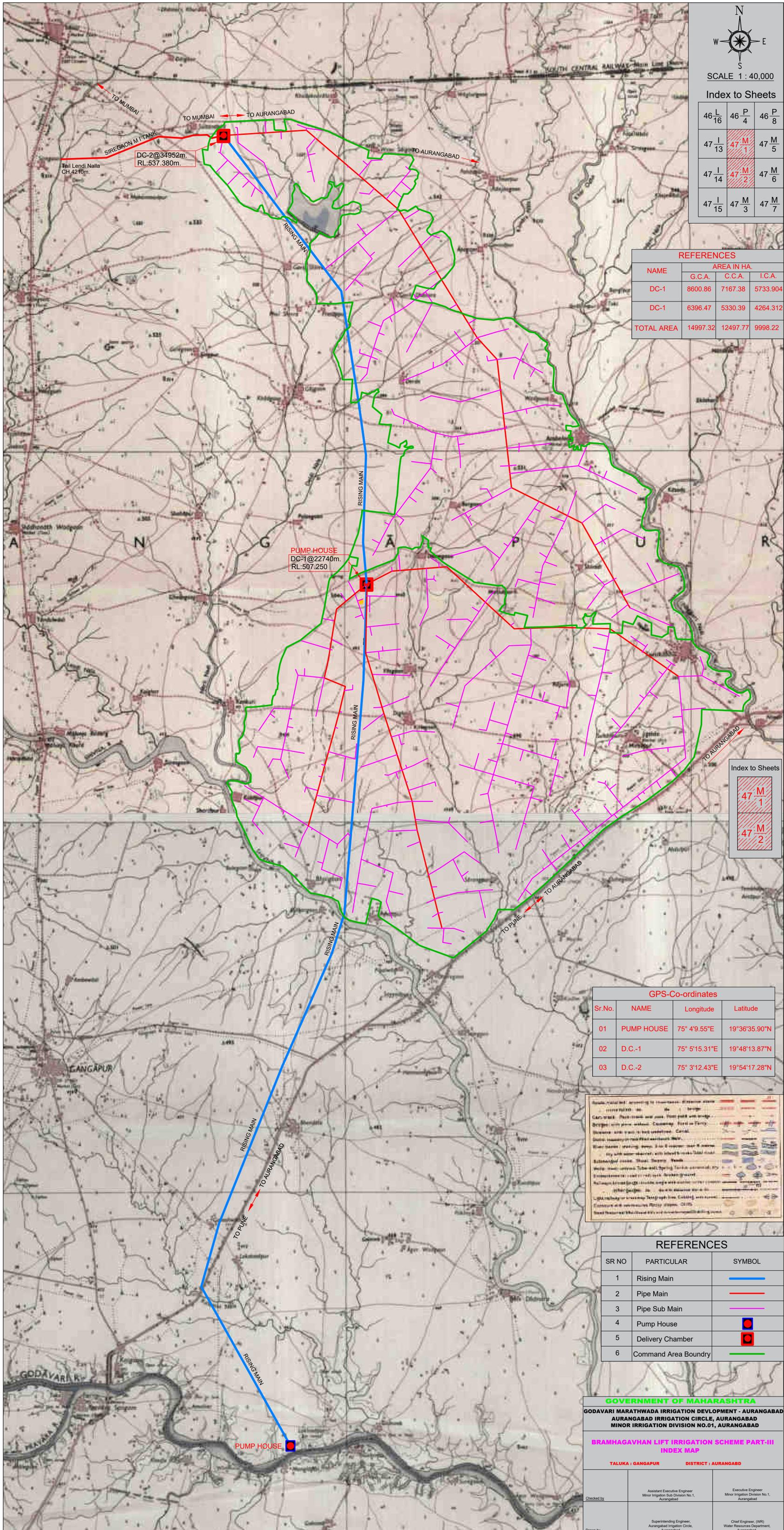
- Total Benefits – 6933 Lakh
- Total Cost (Expenditure) – 5573.52 Lakh
- The Benefit Cost Ratio works out to be: - 1. 24
- Economic Rate of Return (E.R.R) :- 17.077 %

**Annexure I: Google Image of Project Site**



### Annexure-II: Topographical Map





SCALE 1 : 40,000

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47 I 13	47 M 1	47 M 5
47 I 14	47 M 2	47 M 6
47 I 15	47 M 3	47 M 7

REFERENCES

NAME	AREA IN HA.		
	G.C.A.	C.C.A.	I.C.A.
DC-1	8600.86	7167.38	5733.904
DC-1	6396.47	5330.39	4264.312
<b>TOTAL AREA</b>	<b>14997.32</b>	<b>12497.77</b>	<b>9998.22</b>

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47 M 1
47 M 2

GPS-Co-ordinates

Sr.No.	NAME	Longitude	Latitude
01	PUMP HOUSE	75° 49.55'E	19°36'35.90"N
02	D.C.-1	75° 5'15.31'E	19°48'13.87"N
03	D.C.-2	75° 3'12.43'E	19°54'17.28"N

REFERENCES

SR NO	PARTICULAR	SYMBOL
1	Rising Main	
2	Pipe Main	
3	Pipe Sub Main	
4	Pump House	
5	Delivery Chamber	
6	Command Area Boundry	

**GODAVARI MARATHWADA IRRIGATION DEVELOPMENT - AURANGABAD**  
**AURANGABAD IRRIGATION CIRCLE, AURANGABAD**  
**MINOR IRRIGATION DIVISION NO.01, AURANGABAD**

**BRAMHAGAVHAN LIFT IRRIGATION SCHEME PART-III**  
**INDEX MAP**

TALUKA : GANGAPUR DISTRICT : AURANGABAD

Checked by	Assistant Executive Engineer Minor Irrigation Sub-Division No.1, Aurangabad	Executive Engineer Minor Irrigation Division No.1, Aurangabad
Drawn by	Superintending Engineer, Aurangabad Irrigation Circle, Aurangabad	Chief Engineer, (WR) Water Resources Department, Aurangabad.