

## DAMANGANGA - PINJAL LINK PROJECT

### SALIENT FEATURES

<b>1.1</b>	<b>Name of the project</b>	<b>Damanganga- Pinjal link Project</b>		
<b>1.2</b>	<b>General</b>			
1.2.1	River basin	Damanganga Pinjal		
1.2.2	Location of reservoirs			
	Bhugad	Gujarat & Maharashtra		
	Khargihill and Pinjal	Maharashtra		
	Pinjal (proposed by GOM)	Maharashtra		
1.2.3	Access to the project			
	Rail head: Western Railway	70 km. to 100 km.		
	Road head: N.H.No.8	- do -		
	Airport/seaport: Mumbai	170 km to 200 km		
1.2.4	Estimated life of the project	100 years		
<b>1.3</b>	<b>Type of project</b>	<b>Drinking water supply</b>		
<b>1.4</b>	<b>Hydrology</b>			
1.4.1	Catchment area up to dam site (sq. km)			
	Dam site	Catchment Area		
		Gujarat	Maharashtra	Total
	Bhugad	141	588	729
	Khargihill	--	710	710
	Pinjal	--	317	317
	Total	141	1615	1756
1.4.2	Annual gross yield at proposed dam site (Mm <sup>3</sup> ) period of record 1901 to 1997			
	<b>Dam site</b>	<b>Dependability at</b>		
		50%	75%	100%
	Bhugad	883	652	298
	Khargihill	1121	870	427
<b>1.5</b>	<b>Reservoir</b>			
1.5.1	Water levels (m)	MWL	FRL	MDDL
	Bhugad	164.249	163.87	124.83
	Khargihill	155.006	154.52	109.75
	Pinjal	141.10	141.0	92.40
1.5.2	Storage capacity	FRL (m)	Live storage (Mm <sup>3</sup> )	
	Bhugad	426.39	400.00	
	Khargihill	460.79	420.50	
	Pinjal	413.57	401.55	
1.5.3	Sedimentation after 50/100 years (Mm <sup>3</sup> )	50 years		100 years
		Above MDDL	Below MDDL	Above MDDL
		Below MDDL		Below MDDL
	Bhugad	17.72	8.37	36.14
	Khargihill	17.60	7.78	35.80
				14.96
<b>1.6</b>	<b>Submergence</b>	<b>Bhugad</b>	<b>Khargihill</b>	<b>Total</b>
	Total submergence area (ha)	1903	1558	3461
	Villages affected (No.)	14	10	24
	Population affected (No.)	3046	1484	4530
	Live stock affected (No.)	2179	1270	3449
<b>1.7</b>	<b>Head Works</b>			
1.7.1	Dams	<b>Bhugad</b>	<b>Khargihill</b>	
	Type	Composite	Composite	
	Length (m)	826.60	572.80	

	Top width	10	10
1.7.1.1	Earthen portion		
	Length (m)	535.18	230.00
	Maximum height (m)	68.63	75.62
1.7.1.2	Concrete portion (N.O.F.)		
	a) Length at top (m)		
	Left	100.53	117.64
	Right	120.17	154.44
	Top width (m)	6	6
	b) Maximum height (m)	68.63	75.62
1.7.1.3	Spillway		
	Type	Ogee	Ogee
	Length (m)	70.71	70.71
	Maximum height (m)	69.42	74.07
	Crest level (m)	153.202	143.85
	No. of gates	4	4
	Size of gates (m)	14.94 x 10.67	14.94 x 10.67
	Type of gate	Radial	Radial
	Type of energy dissipation Arrangement	Ski jump bucket type	Ski jump bucket type
	Width of roadway (m)	6.00	6.00
<b>1.8</b>	<b>Tunnels</b>	Bhugad to Khargihill	Bhugad to Pinjal
	Length (km)	16.85	25.70
	Intake level (m)	118.19	102.78
	Off take level (m)	104.25	86.78
	Diameter of tunnel (m)	5.0	5.25
	Bed slope (Range)	1 in 1210	1 in 1605
	Maximum discharging capacity at head (cumecs)	43.84	43.84
<b>1.9</b>	<b>Estimated Cost of Project</b>	Unit	Cost Rs. In lakhs
		Unit-I Head works	87540
		Unit-II Tunnels	40237
		Total	127777
1.9.1	Cost of dropping the combined waters of Bhugad & Khargihill reservoir into Pinjal reservoir per cubic meter	Rs.22.15	
1.10	Benefit-Cost Ratio	1.38	