

1. Executive Summary

1.1 General description of the Project:-

Nardave Medium Irrigation Project is being constructed on Gad River near village Nardave, Tal - Kankavali, Dist – Sindhudurg of Maharashtra state since 2001. The river Gad is west flowing river originating from Sahyadri Mountain and meeting in Arabian Sea near Malwan.

The Dam Site is about 25 Km from Kankavali town on Kankavali - Nardave State Highway No:120. The Kankavali is situated on the Mumbai – Goa National Highway No: 17, which is 435 Km away From Mumbai. Site is also approachable by Konkan Railway and the Nearest Railway Station is Kankavali.

The Project envisages construction of an earthen dam having a maximum height of 66.43 m, with gated spillway on right flank and an ICPO on the left flank with gross storage capacity of 123.74 Mcum. The Project on its completion will irrigate 8084 ha (Cropped Area = 12530 ha) of land on both the banks of Gad river from 49 villages of Kankavli, Kudal and Malvan Taluka of Sindhudurg District. Irrigation proposed in the project is by lift irrigation for which a series of 14 no of K.T. weirs is provided along the river course to enable lifting of water for irrigation. The project also envisages a dam foot power house with generation capacity of 3.00 MW. Provision to the tune of 10.605 Mcum for domestic and 5.958 Mcum for industrial use is made. Other benefits of the projects are fisheries and tourism.

1.2 Project site

The Dam Site is about 25 Km from Kankavali town on Kankavali - Nardave State Highway No. 120. The Kankavali is situated on the Mumbai – Goa National Highway No. 17, which is 435 Km away from Mumbai. Site is also approachable by Konkan Railway and the Nearest Railway Station is Kankavali.

1.3 Salient Features

Sr. No.	Particulars	Details
1	Name of the Project	NARDAVE MEDIUM IRRIGATION PROJECT, Tal- kankavali, Dist - Sindhudurg
2	Scope of the scheme	“Nardave” Medium Irrigation Project having instead of canals, series of K.T. weir are provided. Irrigable area of this project is 8084 Ha.
3	Sources	River Gad
4	Location	Topo sheet 47H/15, 16,11,12 Latitude 16 ⁰ -12’-00“(N) Longitude 73 ⁰ -54’-0”(E)
	State	Maharashtra

Sr. No.	Particulars	Details														
	Region	Konkan														
	District	Sindhudurg														
	Taluka	Kankavali														
5	Upstream utilization	Nil														
6	Yield & utilization of project															
	a) Catchment area	47.70 sq.km. (18.53 sq miles)														
	b) Average rainfall	4450.10 mm.														
	c) 75 % Dependable yield	126.60 Mcum.														
	d) Utilization proposed	121.78 Mcum.														
7	Dam & Reservoir															
	a) Gross capacity of storage	123.74 Mcum														
	b) Live storage	119.16 Mcum														
	c) Dead storage	4.58 Mcum														
8	Relevant levels															
	a) River Bed R.L.	127.17 M														
	b) Outlet sill level	185.00 M														
	c) M.D.D.L.R.L.	146.80 M														
	d) Full Reservoir level R.L.	190.00 M														
	e) M.W.L.	190.60 M														
	f) Top of Dam R.L.	193.60 M														
	g) Spillway crest R.L.	185 M														
9	Submergence.															
	a) Submergence	356.352 Ha.														
	b) No. of villages under submergence	Jambhalgaon Nardave. Yavteshvar. Bhairavgaon Durganagar														
	c) No. of Houses under Submergence	<table> <thead> <tr> <th>Village</th> <th>No. of Houses.</th> </tr> </thead> <tbody> <tr> <td>Jambhalgaon</td> <td>249</td> </tr> <tr> <td>Nardave</td> <td>327</td> </tr> <tr> <td>Yavteshvar</td> <td>56</td> </tr> <tr> <td>Bhairavgaon</td> <td>99</td> </tr> <tr> <td>Durganagar</td> <td><u>236</u></td> </tr> <tr> <td>Total</td> <td>967</td> </tr> </tbody> </table>	Village	No. of Houses.	Jambhalgaon	249	Nardave	327	Yavteshvar	56	Bhairavgaon	99	Durganagar	<u>236</u>	Total	967
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Bhairavgaon	99															
Durganagar	<u>236</u>															
Total	967															
	d) No. of Souls affected	3849														
10	Type of Dam															
	a) Type	Earthen Dam with Gated spillway														
	b) Maximum height of dam above river bed	66.43 Mtrs														
	c) Length of Dam. i) Earthen Dam. ii) Masonary Dam	=1790 M (total=earthan dam+Spillway) (R.D.-30 M to 1479.5 M & 1505 M to 1740M) Total = 1749 M =(R.D 1479.5 M to 1520.5 M) Total = 41.00 M														
	d) Total quantity of earth work	136.11 lakh cum														
	e) Total quantity of concrete works	0.53 lakh cum														
	f) Total quantity of excavation															
	Soft Strata	1.78 lakh cum														

Sr. No.	Particulars	Details
	Hard rock	0.20 lakh cum
	TOTAL	1.98 lakh cum
11	Waste weir	
	a) Length of the waste weir	41.00 Mtr. (Including both side pier)
	b) Type.	Gated
	c) Flood depth	2.00 M.
	d) Free Board	3.00 M.
	e) Design flood discharge	616.19 cumecs
	g) Spillway Gates	12 M x 5 M = 3 Nos.
12	Outlet (Power)	
	a) Location	RD 70 M
	b) Full supply discharge	7.66 cumecs

13. Canals – instead of canals series of K.T. weirs are provided

Sr. No.	Name of Valley	Name of K.T. weir	Chainage	Length in M	storage in TM cum
1	Gad RIVER Vally Basin	Nardave	1100 M	52	0.028
2		Jambhavade	2850 M	64	0.034
3		Kupavade	5 970 M	112	0.054
4		Digavale	8510 M	91	0.202
5		Pangamwadi	11100 M	110	0.168
6		Dariste	12250 M	91	0.191
7		Sangave	15400 M	91	0.491
8		Shivdav	17430 M.	110	0.511
9		Chichalwadi	1 8 8 70 M.	85	0.191
10		Shekhwadi	21870 M.	115	0.473
11		harkul bru.	23370 M.	103	0.337
12		Halwal	25350 M.	118	0.472
13		Kankavali	27350.M	112	0.498
14		Ramgad	38850 M	125	0.546
14	Irrigable Area		8084 Ha		
	a) Taluka benefited & village 27benefited.		Taluka - Kankavali -30 villages. Taluka - Kudal -8 villages Taluka - Malvan -10 villages Total -48		
15	Proposed crop pattern		Crop	% age	
	1. Perennial		i) Coconut	15	
			ii) With Black Pepper (Inter Crop)		
			iii) Mango	30	
				45	
	2. Kharif		i) Kh Paddy	46	
			ii) Vegetable	9	
				55	
	3. Rabbi (Follow on crops)		i) Rabi paddy	7	
			ii) Rabbi Vegetable	15	

		iii) H W Pulses	13
		iv) H W Gound nut	5
		vii) Chillies Two seasonal	15
			55
		Total	155
	(b) Existing crop pattern	i) Paddy	42
		iii) Wari/Nagali	12
		iii) Pulses	8
		iv) Seams	1
		iv) Fruits	2
		v) Grass	3
		vi) Culturable	32
		Total	100
16	Cost of the Project	1) Rs. 44670.76 lakhs. (Third Revised) (As per D.S.R.05-06)	
		Third Administrative approval vide Marathi Govt. Order No. Naradave 2007/140/(47/2007)- MPR Mantralay Bombay dated – 19 th JUL 2007 (2) Latest Revised Amount Rs.1200.00 Lakhs (As per D.S.R. 2016-2017 (Under Finalization)	
	a) Cost of the Project (Original)	3243.78 lakhs (As per DSR 1986-1987)	
	b) Cost of the Project (I st Revised)	10298.20 lakhs (As per DSR 1993-94)	
	b) Cost of the Project (II nd Revised)	18990.67 lakhs (As per DSR 1997-1998)	
17	Cost per unit of i) Irrigable area	Rs 5.526 Lakh / Ha	
18	Cost per unit of storage		
	b) Gross storage/Mcum	Rs. 361.005 Lakh/Mcum	
19	Benefit cost ratio Irrigation	1.54	
20	Percentage of submergence to irrigable area.	4.40 %	
21	Percentage of annual utilization to 75 % Dependable yield	96.19 %	