

HIRAKUD DAM PROJECT

Location			
1	Dam site	Near Sambalpur town District Sambalpur in the state of Orissa.	
2	Lattitude	21 ⁰ -32' N	
3	Longitude	83 ⁰ -52'-30" E	
4	River	Mahanadi	
5	Purpose	Multipurpose	
Hydrology			
1	Catchment area	83,400 Sqkm.	
2	Design flood discharge	15,00,000 Cusecs.	
		Pre-construction	Post-construction
3	Mean Annual Rainfall	1381 mm.	1122.28 mm.
4	Maximum Annual Rainfall	1809 mm.	1928.42 mm.
5	Minimum Annual Rainfall	940 mm.	691.46 mm.
6	Average Annual Runoff	4.85 M.HaM.	3.313 M.HaM.
7	Maximum Annual Runoff	8.62 M.HaM.	9.09 M.HaM.
8	Minimum Annual Runoff	1.838 M.HaM.	1.133 M.HaM.
Reservoir			
1	Full Reservoir Level	R.L.192.024 M.	
2	Maximum Water Level	R.L.192.024 M.	
3	Dead Storage Level	R.L.179.830 M.	
	Storage capacity	Original (1957)	Revised (2000)
4	Gross storage capacity at FRL	8136 M.Cum.	5896 M.Cum.
5	Live storage capacity	5818 M.Cum.	4823 M.Cum.
6	Dead storage capacity	2318 M.Cum.	1073 M.Cum.
7	Water spread area at FRL	743 Sqkm.	
8	Water spread area at DSL	274 Sqkm.	
9	Maximum fetch at FRL	83.2 Km.	
10	Available Draw-down	12.192 M.	
Main Dam			
1	Type	Composite structure of Earth,Concrete & Masonry.	
2	Length of Dam	4,800 M.	

3	Length of Left dyke in five gaps	9,337 M.
4	Length of Right dyke in one stretch	10,759 M.
5	Maximum Height of Dam	60.96 M.
6	Total earth work in Dam	18.1 M.Cum.
7	Total quantity of concrete & masonry	1.07 M.Cum.
8	Top level of Dam	R.L.195.68 M.
9	Bed rock	Hard granite gneiss.

Spillway

1	Type	Solid gravity with ogee profile and skijump bucket.
2	Spillway capacity	42,450 Cumecs.
3	Crest Level	R.L.185.928 M.
4	No. of Sluices	64 Nos.
5	Size of Sluices	3.658 M x 6.20 M
6	Sill level of Sluices	R.L.155.448 M.
7	Type of gates	Radial
8	No. of crest gates	34 Nos.
9	Size of crest gates	15.54 M x 6.10 M
10	Maximum Discharge capacity	15,00,000 Cusecs.

Distribution system

1	GCA	2,63,435 Ha.
2	CCA	1,59,106 Ha.

Power Plant

1	Hydraulic head	26.517 M.
2	Maximum discharge	42,000 Cusecs.
3	Installed capacity	259.5 MW.

Generating Units

1	Type	Kaplan Turbine
2	Number	07 Nos.
3	Capacity	259.5 MW.
4	Firm	English & Hitachi

Estimated cost		
1	Total Cost of the project (in 1957)	Rs.100.02 Crores.
5	Year of commencement	1948
6	Year of completion	1957