

MORAND POWER PROJECT

SALIENT FEATURES

Location.

1. State	Madhya Pradesh
2. District	Hoshangabad
3. Latitude	22 ² -19'-15"
4. Longitude	77 ⁰ -29'-0"
5. River	Morand
6. Location	Dam site is near village Morghat.

HYDROLOGY.

1. Catchment area upto dam site.	1041,18 Sq.kms.	402.00 Sq. miles.
2. 50% Dependable annual rainfall.	1176.27 mm.	46.31 inches.
3. Design flood	5862 m ² /Sec.	2.07 lakh cusecs.
4. Available runoff at dam site.		
i) 50% dependability	0.47 MCM	0.384 MAF
ii) 60% dependability	0.44 MCM	0.353 MAF
iii) 75%dependability	0.36 MCM	0.288 MAF
iv) 90%dependability	0.23 MCM	0.187MAF
5. RESERVATION FOR UPSTREAMUSE	0.083MCM	0.068 MAF

RESERVOIR DATA

1. Maximum water level	363.38m	1192.20 ft.
2. Full reservoir level	362.71m	1190.00 ft.
3. Dead storage level	345.61m	1134.00 ft.
4. Water spread area at F.R.L	1940.00 ha	4793.74 acres.
5. Gross storage at F.R.L.	0.026 MCM	0.167 MAF
6. Dead storage	0.021 MCM	0.017 MAF
7. Live storage	0.185 MCM	0.150 MAF

D A M.

(a) Overflow dam.

1. Top of dam.	365 82m.	1200.20 ft.
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2. Length of spillway	213.36 m	700 ft.
3. Maximum height above foundation.	20.20 m	66.27 ft.
4. Number and size of crest gates.	10Nos.of 18.30x6, 10	10 Nos. Of 60x20
5. Crest level	356.616 m	1170.00f.t

(b) Non overflow dam (masonry)

1. Top of dam	365.82 m.	1200.20ft.
2. Length	61.32 m.	201.27ft.
3. Maximum height above foundation.	20.20 m.	66.27ft.
4. Top width of the dam.	6.10 m.	20.00ft.

(c) Earth dam.

1. Top of dam	365.82 m.	1200.20ft.
2. Length	470.00 m.	1541.60ft.
3. Maximum height above N.S.L	46.00 m.	150.88ft
4. Top width of dam	6.10 m	20.00ft.

(d) Subsidiary bund.

1. Top of dam	365.82 m.	1200.20ft
2. Length of dam	378.32 m.	1240.89ft
3. Maximum height above foundation.	12.32 m.	40.41ft
4. Top width of dam	6.10 m.	20.00ft.

Canal system (Irrigation)

1. Gross commanded area	65,821 Hectare	1, 62,644 Acres.
2. Cultivable area	58,205 „	1,43,446 „
3. Area to be irrigated	52,205 „	1,29,000 „
4. Annual Irrigation	65,256 „	1,61,250 „

Existing crop practice proposed

Crop pattern and annual irrigation.

Crop	Existing Practice (Percent)	Crop **	Proposed area Under Crops*** (Percent)	<u>Annual Irrigation</u> Hectare (Acres)
1	2	3	4	5
Paddy	2.64	22	11,485	(28,380)
Hy.Jowar/Maize	-----	10	5,225	(12,900)
Cotton	-----	5	2,610	(6,450)

- * Including double and multiple crops.
- ** Percentage of project cultivable area 0.58 lakh hectare.(10,434 lakh Acres)

- *** Percentage of cultivable commanded area 0.522 lakh hect.
- **** This is included in Ganjal project Report, as the canal system is

Common for Morand and Ganjal project.

1	2	3	4	5
Ground Nut	-----	3	1,566	(3,870)
Pulses	-----	6	3,132	(7,740)
Vegetables	-----	2	1,044	(2,580)
Perennial	0.01	—	Nil	Nil
Fodder	0.0	2	1,044	(2,580)
Other Kharif	39.75	Nil	Nil	Nil
TOTAL	42,40	50	26,106	64,500

Rabi.	—	—	—	—
Wheat H.Y.V	—	46	24,013	59, 34

Wheat local	21.2	10	5,224	12,900
Vegetable	—	2	1,043	2,580
Gran	—	4	2,086	5,160
Berseen	—	7	3,653	9,030
Pea	—	6	3,131	7,740
Other Rabi	9.6	-	3,131	7,740
Total	30.8	75	39.150	96.750

Length of canals.*

1. Morand R.B.C.	20.205 km.	13.25 miles
2. Ganjal R.B.C.	25.50 km.	16.73 miles
3. Ganjal L.B.C.	11.64 kms.	7.63 miles
4. Tawa extension canal	50.13 kms.	32.87 miles

Full supply level at Head of canal.

1. Morand R.B.C.	345.03 m.	1132 ft.
2. Ganjal R.B.C.	357.23 m.	1172 ft.
3. Ganjal L.B.C.	357.23 m.	1172 ft.
4. Tawa Extension canal	310.997 m.	1020 ft.

***This is including in Ganjal project report.**

Estimate of cost.

1. Cost of unit I dam	525 Lakhs
2. Cost of unit II canal System.	<u>681 Lakhs</u> .(video Gangal project)
TOTAL	1206 Lakhs
Add cost of Ganjal (unit I dam)	698 Lakhs (Video Gangal project)
Grand TOTAL	<u>1904 Lakhs</u>
3. Cost per acre of irrigation Area.	1475

4. Cost per acre of annual Irrigation	1100
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5. Cost per hectare of Irrigable area.	3645
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6. Cost per hectare of annual irrigation	2916
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Benefits. (**From GanjalMorand Complex**)*

1. Annual additional yiold Food and other crops.	3,56,266Tones.
Cash crops.	2,100

2. Annual value of additional produce.	
Food and other crops.	1,025.66 Lakhs.
Cash crops	240.88 Lakhs.

3. Total amount of recovery frombettermentlovey.	288.96 Lakhs
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4. Annual revenue from Irrigationcosts.	4,84 Lakhs.
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5. Annual revenue from Water rates.	34,02 Lakhs
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6. Annual other revenue (Water supply & fisheries).	Nil
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Financial returns:

Benefit cost ratio with 10 percent interest	2.71
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On capital outlay.

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