SALIENT FEATURES:-
AJI-III Scheme

I. Location :

a) Across river
b) Near Village
c) Taluka
d) District
e) Co-ordinations :
   1. Latitude
   2. Longitude

II. Nearest railway station and distance there from :

   Padadhari Railway Station at 9 K.M. dam site on south direction.

III. Stream flow data :

a) Width of the river channel at dam site.
   1. During high flood.
   2. During summer

b) Length of the river
   1. Source to dam site
   2. Source to sea

c) Average bed level at dam site

d) Average fall of river bed at dam site

e) Maximum observed flood

f) Minimum recorded flow
IV Hydrology :-

a) Catchment area at the dam site 1378.53 Sq.Km.
b) Intercepted C.A. 894.10 Sq.Km.
c) Free C.A. at dam site 480.01 Sq.Km.
d) Catchment area laying in other states, if any. ----Nil----
e) Average annual rainfall 559.00 mm.
f) Maximum rainfall with reference to year 324.00 mm.
g) Minimum rainfall with reference to year : 10.00 mm.
h) Mean annual Run-off. ------
i) Yield (in Mcft/Mcmt)at
   50% reliability 52.662 mm.
   60% reliability 48.356 mm.
   75% reliability 39.623 mm.
   90% reliability 15.873 mm.
j) Design flood 6170 m³ / sec.
k) Moderated flood ------

V Reservoir :

a) Name of Reservoir. Aji-3 Irrigation Scheme.
b) Full Reservoir Level 53.15 Mt.
c) Maximum Water level 56.19 Mt.
d) Low water level. 55.00 Mt.
e) Tail water level. 48.92 Mt.
f) Cross capacity at F.R.L. 61.945 M.Cum(2187.59 Mcft)
g) Dead Storage @ L.W.L. 4.745 M.Cum(167.57 Mcft)
h) Live storage 57.20 M.Cum(2020.02 Mcft)
i) Evanoratino losses. 11.00 M.Cum(388.46 Mcft)
j) Net Utilisation. 46.20 M.Cum(1631.55 Mcft)
VI. Dam:

a) Type of dam. 
   - Earthen dam  
     (Rolled fixed type)

b) Masonry dam.
   1. Length of Non overflow  
      74.00 Mt.
   2. Length of Right transition dam.  
      37.00 Mt.
   3. Length of Left transition dam.  
      37.00 Mt.
      21.05 Mt.
   
   - Total 74.00 Mt. 37.00 Mt. 37.00 Mt. 21.05 Mt.

5. Width of road way 6.00 Mt.
6. Top R.L. of dam. 60.00 Mt.

c) Spillway:
   1. Type  
      - ogee shaped spillway.
   2. Location of gorge or saddle.  
      ch.3750 to 4021.65 Mt.
   3. Crest level.  
      44.92 Mt.
   4. Top of crest gates.  
      53.45 Mt.
   5. No. site and type of gates.  
      18 nos. Redial type Gate  
      size-12.497 Mt. X 8.23 Mt.
   
   6. Length of spillway clear  
      225 Mt.
   7. Maximum head over crest  
      8.23 Mt.
   8. Discharging capacity of spillway  
      at H.F.L. 13.832 Cumeces.
   9. No. and thickness of piers  
      17 nos. 9' (2.73 Mt.)
10. Type of downstream protective work.  
    - Rooler Bucket.

d) Earth dam:
   1. Length of gorge portion  
      7050 Mt.
   2. Length of Saddles.  
      7050 Mt.
   3. Type of section.  
      Rotted Fixed Type.
   4. Maximum height from the deepest  
      foundation to the top of roadway.  
      21.05 Mt.
   5. Width of roadway.  
      6.00 Mt.
   6. Top of dam.  
      R.L. 60.00 Mt.
VII. Estimated quantities of
Major Items:

a) Excavation in:
1. Soil 28,580.00 Cum.
2. Hard Soil
3. Weathered rock 22,998.00 Cum.

Total:

b) Masonry:
1. Random rubble masonry 1189.00 Cum.
2. Coursed rubble masonry 29,002.00 Cum.

c) Concreting in:
1. Bucket
2. Spillway 19,009.00 Cum.
3. Rondway parapet and other items

Total:

d) Earth work in:
1. C.O.T. 38,330.00 Cum.
2. Embankment 4,67,572.00 Cum.

Total:

e) Submergence details:
1. Area under submergence at H.F.L
2. Area under submergence at F.S.L 1437.60 Hctor.
3. Cultivable land under submergence 756.23 Hector.
4. Forest land under submergence
5. To tap population affected
6. No. and names of districts, talukas and village affected

Village: Taluka: District:
1) Khajuradi oadadgaru Rahkot
2) Khamata 2) Khamata
3) Haripar 3) Haripar
4) Govindpur 4) Govindpur
5) Dedakdad Dhroll Jamnagar
6) Khankhdabela Padbdhari Rajkot
VIII. Outlets:
1. Irrigation
2. Water supply
3. Construction sluices
4. Penstocks.

IX. Head Regulator:
a. Location.
   Right side ch. 5050 Mt.
   Left side ch.3500 Mt.

b. Design Discharges
   Right side ch. 80 Cusecs.
   Left side ch.160 Cusecs.

c. No. and size.
   Size of outlet R.C.C. box of
   1.41 * 1.80 on L.B.
   Size of outlet R.C.C. box of
   1.20 * 1.50 on R.B.

d. Sill R.L.
   45.00 Mt.

X. Canal system:
a. Main Canal:
   Right Bank Main Canal.
   Left Bank Main Canal.

1. Capacity.
   Left Bank-160 Cusecs.
   Ringt Bank- 80 Cusecs.

2. Type
   Left Bank - 2.00 * 1.55
   Right Bank - 1.20 * 1.00 + 0.45 mt.

3. Section
   Left Bank - 1:3000
   Right Bank - 1: 3000

4. Crade
   Left Bank - 16.74 Km.
   Right Bank -7.92 Km.

5. Length

6. Whether perennial seasonal or biseasonal
   Perennial.

7. Whether contour of ridge canal.
   Contour.

8. Whether lined or unlined.
   lined canal.

9. Earth work :
   Cutting in rock
   Cutting in earth

10. No. of C.D. Works.
    Left Bank
    Right Bank- 22 Nos.
11. F.S.L. at head.
   Left Bank - 46.25 Mt.
   Right Bank - 46.20 Mt.

b. Branches.
   Left Bank - 13 Nos.
   Right Bank - 5 nos.

   Total length:

**XI. Benefits:**

A)
   a) Irrigation.
   b) Left Bank
   c) Right Bank

Total:

b) Firming up the existing system.

c) No. and names of districts, Talukas & Village’s benefitted.
   (A) Jamnagar Districts:
   1) Dhrool Taluka:
      Village: Lalpur, Nodpur, Dhormpur.
   2) Jodia Taluka:
      Village: Sagalia, Pithad, Jasapar, Timbadi
   (B) Rajkot District:
      Padadhari Taluka:
      Village: Thoriyali, Khakara, Bangawadi.
      Rojkot & Jamnagar.

d) Water Supply to for

**XII. Cost estimates : (Rs. In lacs)**

a) Unit - I
   Dams and appurlanant works.
   426.59 lacs.

b) Unit - II
   Canals.
   62.26 lacs.

c) Unit - III
   Power portion
   -------------------------
   Total: 488.85 Lacs.
XIII. Economic Appraisal:

a) Irrigation
   1) Cost or canal system per acre of
      C.C.A Rs. 3216.00 Acre.
      C.C.A Rs. 3987.00 Acre.
      Annual Irrigation.
   2) Benefit cost Ratio
      at 5% annual cost 2.749
      at 10% annual cost 1.634

Flood Control:

b) Likely protection to lower reaches
   by flood moderation.

c)
   1. Area protected.
   2. No. of villages protected.

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d) Benefit cost Ratio at Annual cost: Rs. 2869/ acre.
FIG. D1
PHOTOGRAPH OF AJI-III
FIG. D2
LAYOUT OF AJI-III
FIG. D3
EARTH DAM & SPILLWAY CROSS SECTION OF AJI-III