

KANHAR IRRIGATION PROJECT, UTTAR PRADESH

SALIENT FEATURE

1	Name of the project	:-	KANAHAR IRRIGATION PROJECT
2	River Basin		
	a) Name	:-	Son Basin
	b) Located in		
	(i) States		U.P., Bihar, Chhattisgarh and
	(ii) States (if inter state river)		Jharkhand
	(iii) Countries (if International river)		
3	Name of		
	a) River	:-	Kanahar River
	b) Tributary	:-	Son River
	c) State(s)	:-	U.P., Chhattisgarh and Jharkhand
	d) District		
	(i) Reservoir	:-	Sonbhadra (U.P.), Sarguja (Chhattisgarh), Garwa (Jharkhand)
	(ii) Head Works	:-	Sonbhadra (U.P.)
	(iii) Command area	:-	Sonbhadra (U.P.)
	e) Taluka(s) / Tehsil(s)	:-	
	(i) Reservoir	:-	Dudhi (U.P.), Ramanujgang, Ambikapur (Chhattisgarh), Dhurki, Garhwa, (Jharkhand)
	(ii) Head Works	:-	Dudhi (U.P.)
	(iii) Command area	:-	Dudhi, Robertsgang (U.P.)
	f) Village near the HeadWorks	:-	Amwar (U.P.)
4	Location of Head Works		
	(i) Longitude		83°-17' E
	(ii) Letitude		24°-08' N
5	Project area reference to degree sheets		63 P/4, P/7, P/8
6	<u>Access to the project</u>	<u>Name</u>	<u>Distance from project site</u>
	(i) Rail Head	:-	Dudhi R. S. 13 Km.
	(ii) Road head	:-	Dam site 500 M.

7	Estimated life of the project (Years)	:-	100 Years	
8	Type of projects (Irrigation/Multipurpose)	:-	Irrigation	
9	Irrigation (Ha)			
a)	Gross commanded area (GCA)	:-	37320	Ha.
b)	Culturable area in U.P. (CCA)	:-	26075	Ha.
c)	Area under irrigation (break up)			
(i)	Kharif	:-	21121.00	Ha.
(ii)	Rabi	:-	14342.00	Ha.
(iii)	Gross Irrigated area (GIA) (U.P.)	:-	35463.00	Ha.
(iv)	Intensity of irrigation	:-	136%	
d)	Cost per hectare of gross area irrigated (U.P.)	:- Rs.	635110.47	/Ha.
e)	Cost per 1000 Cum. Of gross/live storage	:-	29237/53443	
10	Water Supply (Domestic)			
a)	Names of town / Village served	:-	Dudhi, Bagharu	
b)	Size if population served	:-	More than 2.0 Lacs	
c)	Quantum of water made available	:-	1000 Cum.	
d)	Quantum of water per capita (liter)/day	:-	400	
11	Quantum of water for industrial use	:-	Nil.	
12	<u>Project performance</u>		<u>Period</u> <u>Simulation</u>	<u>No of</u> <u>failure</u>
	Irrigation	:-	28	4
13	Catchments area at headwork site (Km ²)			
a)	Gross	:-	4584	
b)	Intercepted (by contemplates project)	:-	3064	
c)	Unintercepted	:-	1520	
14	Precipitation			Rainfall (weighted mm)
	Catchment period of record 1961-2011			Monsoon (June - Oct.)
a)	Average		3590	
b)	Maximum		6180	
c)	Minimum		11.1	
d)	Coefficient of variation		1.043	

15	Command	Cropping Season		
		Kharif (June-Oct)	Rabi (Nov-Feb)	Hot weather (Mar-May)
a)	Average	841	30	34
b)	80 Percent dependable	669	19	8
16	Annual yield calculated at the proposed site (M cum) period of record 1976-2004	(June-Oct)		
a)	Maximum	4723		
b)	Minimum	598		
c)	Average	2105		
d)	Dependable (percent)	Monsoon (June-Oct)		
	(i) 50	1525		
	(ii) 75	1218		
	(iii) 90	1101		
	(iv) 98	598		
17	Utilization within the state (M cum)			
18	State share in case of interstate	Nil		
19	Committed utilization			
a)	Up stream major medium minor			
	(i) Project completed	Nil		
	(ii) Project under construction	Nil		
	(iii) Further project	Nil		
	(iv) Any others	Nil		
b)	Down stream major medium minor			
	(i) Project completed	Nil		
	(ii) Project under construction	Nil		
	(iii) Further project	123		
	(iv) Any others	Nil		
20	Proposed utilization by the project			
a)	Kharif	81		
b)	Rabi	55		
c)	Total	136		

21	Reservoir Water Level (El-m)	
a)	Maximum water level	:- 267.920
b)	Full reservoir level	:- 265.552
c)	Minimum draw down level	:- 260.212
d)	Dead storage level	:- 260.212
22	Free board (m)	:- 3.00
23	Wave height (m)	:- 2.00
24	Live storage (Mcum)	:- 122.11
25	Capacity at (Mcum)	
a)	Full reservoir level	:- 223.21
b)	Minimum draw down level	:- 101.10
c)	Dead storage level	:- 101.10
26	Sedimentation (Mcum)	:- After 50 year
a)	Above MDDL	:- 10.40
b)	Below MDDL	:- 88.90
c)	Encroachment of live storage (Percent)	:- 8.50%
27	Assumed annual losses evaporation from the reservoir (Mcum)	:- 24.70
28	Land and property submerged	
a)	Village affected (Nos)	:- 19
b)	Land affected (Ha.)	
	(i) Gross	:- 4088.13
	(ii) Culturable	:- 1747.97
	(iii) Irrigated	:- Nil
c)	Building/house (no.)	
	(i) Private	:- 1018
	(ii) Communities	:- 10
d)	Well (no.)	:- 224 (Kuchcha), 41(pukka)
29	Submergence ratio (with reference to culturable) command area	:- 0.067
30	Number of families affected	:- 2278
31	Headworks	:-

32	Dam	
33	Type of dam	:-
a)	Homogenous/zoned/Rockfill	:- Homogenous zoned in river gap
b)	Length of the dam at top (m)	
(i)	Right flank	:- 1240
(ii)	Left flank	:- 1749
c)	Top width (m)	:- 9.16
d)	Maximum height above G.L.(m)	
(i)	Right flank	:- 39.9
(ii)	Left flank	:- 39.5
e)	Type of cutoff and maximum depth (Upstream blanket/open trench/ diaphragm /Groutcurtain/combination of alternative)	:- Combination of alternative
34	Spillway (Overflow section)	
a)	Type of spillway	:- Ogee
b)	Full reservoir level (El-m)	:- 265.552
c)	Maximum water level (El-m)	:- 267.920
d)	Length	:- 311.750
e)	Maximum height above the deepest foundation	:- 28.802
f)	Crest level (El-m)	:- 251.302
g)	Number of gates	:- 16
h)	Type of gate	:- Radial
i)	Size of gates (m)	:- 15.5 x 14.5 m.
j)	Maximum discharging capacity at F.R.L.and M.W.L.	:- 29,148 cumec (10.29 Lac. cusec)
k)	Flood height (m)	:- 2.368
l)	Tail water level (El-m)	
i)	Maximum	:- 233.800
ii)	Minimum	:- 229.000
m)	Type of energy dissipation arrangement	:- Ski jump Bucket
35	Main canal	:- Left Kanhar Canal
		:- Right Kanhar Canal
		:- Left Pandu Basin Canal
		:- Right Pandu Basin Canal
36	Purpose of canal	:- Irrigation

37 Type

- a) Flow/Lift :- Flow
b) Lined-unlined : Lined (Partially)
c) Discharging capacity of channel above which :- whole length

- d) Type of lining :- Concrete

38 Main canal data		<u>LKC</u>	<u>RKC</u>	<u>LPBC</u>	<u>RPBC</u>
a) Length (Km)	:-	25.60	31.50	29.10	24.00
b) Full supply level at head (El-m)	:-	260.00	260.00	252.30	252.68
c) Full supply depth at head (m)	:-	1.75	1.75	1.60	1.89
d) Bed width at head (m)	:-	1.50	5.20	2.00	3.00
e) Side slope at head	:-	1.5:1	1.5:1	1.5:1	1.5:1
f) Bed slope	:-	0.2m/Km	0.2m/Km	0.2m/Km	0.2m/Km
g) Maximum discharge capacity at head	:-	4.80	18.00	4.80	9.20
h) Total number of canal structures on main and branch canal	:-	56	46	48	42
i) Gross command area (ha) in U.P	:-	37320			
j) culturable command area (ha) U.P	:-	26075			
j) culturable command area (ha) Jharkhand	:-	7000			

- 39 Branch canal(s) :- Flow canal

- a) Numbers :- Two
b) Total length (Km) :- 57.10

- 40 Total length of distribution system :- 190 Km

41 Name of Crop (Season wise) Percentage Area (CCA)

<u>Kharif</u>		<u>Existing</u>	<u>Proposed</u>
1) Paddy	:-	11.80	25.00
2) Maize	:-	8.80	15.00
3) Arhar	:-	5.60	5.00
4) Pulse (Urd)	:-	1.20	20.00
5) Ground nut	:-	-	4.00
6) Tomato	:-	-	5.00
7) Onion	:-	-	7.00
8) Jwar	:-	1.70	-

9) Kodo Sanwan	:-	11.80	-
10) Til	:-	4.30	-
11) Other Kharif	:-	0.30	-
<u>Rabi</u>			
1) Wheat	:-	3.90	15.00
2) Gram	:-	4.90	5.00
3) Mustard	:-	2.00	4.00
4) Potato	:-	-	5.00
5) Peas	:-	-	23.00
6) Tomato	:-	-	1.00
7) Onion	:-	-	1.00
42 Cost of the Project	:- Rs.	223934.64 Lacs.	
Unit I- Headwork	:- Rs.	141341.33 Lacs.	
Unit II- Main Canal & Branches	:- Rs.	82593.31 Lacs.	
		Quantity	Value
		(M.T.)	(Rs. Lakhs)
43 Food production (Ton)	:-	3519832.00	8764.85
44 Benefit cost ratio	:-	1.42:1	56.58

Executive Engineer
Kanhra Construction Division-I
Pipri, Sonebhadra