

Burhi Gandak-None-Baya-Ganga Link Project

Salient Features

1.0 General

1.1 Name of the project	Burhi Gandak-Noon-Baya- Ganga Link Project
1.2 Purpose	Diversion of flood water from river Burhi Gandak to river Baya/Ganga for flood moderation. Irrigation to the tune of 1.26 lakh ha during kharif season in Samastipur, Begusarai and Khagaria districts
1.3 River basin	
Name	Burhi Gandak
Location	India and Nepal

2.0 Head works

2.1 Burhi Gandak Barrage	
(i) Location	
Latitude	25 ⁰ 49'35"N
Longitude	85 ⁰ 53'45"E
Project site	Near village Muriaro in Samastipur district
(ii) Hydrology	
Total catchment area	12,500 sq km
(a) In India	10,150 sq km
(b) In Nepal	2,350 sq km
Mean annual rainfall	1,300 mm
Maximum observed flood discharge at Sikandarpur G&D site (1975)	3787 cumec
Estimated flood discharge corresponding	4920.00 cumec

to 50 years return period
at Sikandarpur G&D
site

(iii) Pandage

Pond level of barrage 49.0 m
Sill level of barrage 42.5 m

(iv) Barrage

Type of barrage Earth fill- cum- concrete
Top of barrage level 54 m
Total length of barrage 611 m
Height of barrage above
the river bed level 16 m
Height of barrage
above deepest
foundation level 36 m

Gate

(i) Number 16
(ii) Size 8 m x 12.8 m
(iii) Type vertical

(v) Undersluice

(a) Length of waterway 28 m
(b) Gates
(i) Number 3

(ii) Size 8 m x 14 m
(iii) Type vertical

3.0 Link canal

(a) Length of canal	28.95 km
(b) Flow	By gravity
(c) Lining	Lined
(d) Full supply level	
(i) At head	47.50 m
(ii) At outfall point	44.64 m
(e) Full supply depth	
(f) Bed width	
(i) At head	82.10
(ii) At outfall point	94.30
(g) Side slope	1:1:5
(h) Bed slope	1:20,000
(i) Design discharge	492 cumec
(j) Total number of structures on the link canal	3 head regulators, 1 cross regulator, 14 road bridges, 4 syphon aqueducts, 3 syphons, 1 escape

4.0 Water considered for transfer

492 cumec

5.0 Major river crossing

5.1 Noon river

Proposed structure

Syphon aqueduct.

6.0 Additional irrigation benefit

(i) GCA	1.76 lakh ha
(ii) CCA	1.26 lakh ha
(iii) Irrigation	1.26 lakh ha

7.0 Estimated cost

(i) Headworks	969.95 crore
(ii) Canal & canalization	3025.42 crore
(iii) Command areadevelopment	217.79 crore 4213.75 crore
Total	

8.0 Economic analysis

8.1 Annual benefits

(i) Flood relief	143.31 crore
(ii) Irrigation	587.10 crore

8.2 Benefit cost ratio

1.54

8.3 I.R.R. @ 8% interest on capital outlay

16%