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°49′35″N
Longitude
85°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  
(ii) Canal & canalization  
(iii) Command area development  

Total  

4213.75 crore

8.0 Economic analysis

8.1 Annual benefits

(i) Flood relief  
(ii) Irrigation  

143.31 crore  
587.10 crore

8.2 Benefit cost ratio  
1.54

8.3 I.R.R. @ 8% interest on capital outlay  
16%