

Chapter-12

Estimates

12.1 General

Estimate for the project is prepared as per the working group report "Guidelines for preparation of detailed project reports of irrigation and multipurpose projects" published by the erstwhile Ministry of Irrigation (now Ministry of Water Resources), Government of India in the year 1980. Provisions are made under different units, minor heads and sub-heads.

12.2 Classification of heads

The works under Polavaram - Vijayawada link project have been grouped as a single unit comprising the main canal, branches, distributaries, channels, regulators/sluices, cross masonry and cross drainage works etc.

12.3 Classification of minor heads/sub-heads

The unit has been divided into the following minor heads classified as direct and indirect charges.

Direct charges	Rs. in lakh
I - Works	133523
II - Establishment	14211
III - Tools and plants(Ordinary)	1335
IV - Suspense	Nil
V - Receipts and Recoveries	(-) 2501
Subtotal	146568
Indirect charges	
a) Capitalised value of abatement of land revenue	488
b) Audit and account charges	1335
Subtotal	1823
Total cost of the link project	148391

12.3.1 Provisions under the minor head I - Works

All the works have been further sub divided into various sub-heads as listed below:

- A. Preliminary
- B. Land
- D. Regulators
- F. Cross drainage works
- G. Bridges
- H. Escapes
- K. Buildings
- L. i) Earth work(main canal)
ii)Lining
- M. Plantation
- N. Tanks and reservoirs
- O. Miscellaneous
- P. Maintenance
- Q. Special T & P
- R. Communication
- U. Distributaries, minors and sub-minors
- V. Water courses/field channels
- W. Drainage
- X. Environment and ecology
- Y. Losses on stock and unforeseen

12.4 Requirement under different sub-heads

The provisions made under various sub-heads of the classified abstracts are as follows. The rates adopted are based on the schedule of rates for Dowlaiswaram and Vijayawada Circles for the year 1994-95.

12.4.1 Direct Charges

12.4.1.1 I - Works

'A' Preliminaries

The provision made under this sub-head is Rs. 2670 lakh. The percentage worked out is 2% on cost of I-Works. This sub-head covers the expenditure on investigations to be conducted during execution, surveys, design studies, field tests etc.

'B' Land

Provisions made under this sub-head cover the cost of land acquisition along the canal alignment, structures, camp colonies and for field channels. The cost of land acquisition and related items works out to Rs. 15095 lakh. Provision is also made under this sub-head for (1) compensation for standing crops @ 30% of cultivable land, (2) compensation for wells, trees, houses, huts etc., (3) solatium charges @ 30%, (4) establishment charges @ 6.25% and (5) shifting charges of telephone and electrical lines.

Provision is also made @ 1% for measurement and demarcation of land and property, rent for use of land, legal charges and rehabilitation charges.

The rates adopted for wet and dry lands are in accordance with the prevailing market rates of respective taluks and villages as ascertained from the revenue department and the sub-registrar's office.

'D' Regulators

A provision of Rs.7982 lakh and Rs.93 lakh is made for construction of cross regulators and off take sluices respectively totalling to Rs. 8075 lakh. The cost of the off takes are deducted from cost curves prepared based on the revised cost as per 1994-95 S.S.R.

'F' Cross drainage works

The cross drainage works are (1) aqueducts, (2) under tunnels, and (3) super passages. Cost for these structures is deducted from cost curves.

Aqueducts

Cost curve is prepared for major drainage crossings viz., Yerra Kalva, Gunderu and Tammileru based on the revised cost as per 1994-95 SSR. The cost of other minor aqueducts are deducted from cost curves. The total cost of aqueducts comes to Rs.9731 lakh.

Under tunnels

Cost curve is prepared based on the revised cost as per 1994-95 SSR. Cost of the under tunnels are deduced from the cost curve. Provisions are also made for approach and tail channels for diversion of drains. Provision for a silt ejector is also made at RD 2.07 km. The total cost works out to Rs. 5291 lakh.

Super passages

Cost curve is prepared based on revised cost as per 1994-95 SSR. The costs of super passages are deduced from the cost curve. Provisions are also made for approach and tail channels and also diversion channels. The total cost comes to Rs.2852 lakh

'G' Bridges **Double lane bridges**

Cost curve is prepared based on revised cost as per 1994-95 SSR. The costs of double lane bridges are deduced from the cost curves. There are 22 double lane bridges in addition to the 5 numbers combined with other structure i.e., off take cum regulator cum double lane bridges. The cost of double lane bridges works out to Rs.937 lakh including formation of approach embankments and diversion roads wherever necessary.

Single lane bridges

The same procedure is adopted as in case of double lane bridges for arriving at the cost of the single lane bridges. The cost under this sub-head works out to Rs.648 lakh, including provision for approach embankments and diversion roads wherever necessary.

'H' Escapes

The State Government estimate for the proposed escape at RD 1.45 km is revised based on 1994-95 SSR. The cost of other escapes are deduced from the cost of the above escape. The total cost comes to Rs.320 lakh.

'K' Buildings

Buildings are classified broadly as permanent and temporary buildings. These are further classified as residential and non-residential buildings. A sum of Rs.5402 lakh is provided for buildings.

'L' Earth work

Total cost of earth work for the link canal is estimated to be Rs.30628 lakh. The total length of 174 km of the link canal is divided into 17 reaches based on the hydraulic parameters. Total cost of the cement lining works out to Rs.27690 lakh.

'M' Plantation

A sum of Rs.148 lakh is made under this sub-head considering the total length of canal, branches and major distributaries. The cost of the plantation along the canal works out to Rs.145.18 lakh. A lump sum provision of Rs.2.82 lakh is also made in the estimate for providing avenues along the approach roads.

'N' Tanks and reservoirs

A sum of Rs.367 lakh is provided for improving the existing tanks in the command area.

'O' Miscellaneous

The total provision made under this sub-head is Rs.4407 lakh.

'P' Maintenance

A provision of Rs.1247 lakh is made under this sub-head for the maintenance of all works during construction period.

'Q' Special Tools and Plants

A provision of Rs. 755 lakh is made under this head. The net amount charged to special tools and plants is computed after deducting hire charges at 75% on the capital cost of machinery.

'R' Communications

A lump sum provision of Rs.388 lakh is made under this sub-head for connecting the important work spots with existing roads, roads to quarries, temporary river crossings etc.

'U' Distributaries, Minors and Sub-Minors

A provision of Rs.10256 lakh is made under this sub-head. A rate of Rs.6765.00 per ha has been taken for the distributary system inclusive of excavation of majors, minors and construction of cross masonry and cross drainage structures.

Four lift schemes to irrigate a total area of 8027 ha are also proposed. Cost of these four lift schemes works out to Rs.802.70 lakh and is included in this sub-head.

V. Water Courses/Field Channels

A provision of Rs.2820 lakh is made under this sub-head for providing field channels in the command area.

'W' Drainage

A provision of Rs.3239 lakh is made under this sub-head for drainage system in command area.

'X' Environment and ecology

A provision of Rs.270 lakh is made towards the study of environmental and ecological aspects by various organisations, and for protective measures as may be necessary.

'Y' Losses on stock and unforeseen

A provision of Rs.287 lakh at 0.25% of I-works less 'A' Preliminaries, 'B' Land and 'Q' Special T & P is made under this sub-head in the estimate.

12.4.1.2 II-Establishment

An amount of Rs.14211 lakh is made under this sub-head for establishment including leave and pensionary charges at 12% on I-works less B-Land. The total construction programme of link canal will be spread over a period of 12 years.

12.4.1.3 III-Tools and Plants (Ordinary)

A sum of Rs.1335 lakh is made under this sub-head to cover the cost of survey instruments, camp equipment, office furniture and equipment and other small tools which works out to about 1% of the cost of I-Works

12.4.1.4 IV-Suspense

A lump sum provision of Rs.1200 lakh is made under this sub-head which will be fully realised and adjusted later to the capital outlay. Hence, the net provision under this sub-head will be 'NIL'.

12.4.1.5 V-Receipts and Recoveries

The estimated deductions by way of resale of transfer or temporary buildings and sale of special T & P and miscellaneous receipts from rent charges of buildings is estimated as Rs.2501 lakh.

12.4.2 Indirect Charges

(i) Audit and Accounts Charges

A provision of Rs.1335 lakh is made under this head at about 1% of the cost of I-Works to cover the establishment charges of the Accounts staff.

(ii) Abatement of Land Revenue

A provision of Rs.488 lakh at 5% of the land cost is provided towards abatement of land revenue due to land acquisition for canals and camps.

12.5 Estimated cost

The total estimated cost of the Polavaram - Vijayawada link canal project works out to Rs.148391 lakh.