

EXECUTIVE SUMMARY

Long distance inter-basin transfer of water from surplus basins to water deficit basins has been mooted in our country in order to reduce the imbalance in the water availability between various regions. A National Perspective Plan (NPP) was formulated in the year 1980 by the Union Ministry of Irrigation (now Ministry of Water Resources) and the Central Water Commission identifying a number of inter-basin water transfer links in respect of both Peninsular rivers and Himalayan rivers of the country. The Peninsular Rivers Development and the Himalayan Rivers Development Components put together were expected to create an additional irrigation potential of 35 million hectares besides hydropower potential and other benefits.

The Peninsular Rivers Development component of the National Perspective Plan for Water Resources Development, formulated in the year 1980 by the erstwhile Union Ministry of Irrigation (now Ministry of Water Resources) and Central Water Commission, envisaged diversion of surplus flows of the Mahanadi basin and the Godavari basin to the water short Krishna, Pennar, Cauvery, Vaigai and Gundar basins in the South. The National Water Development Agency (NWDA) has assessed the water balance position in various peninsular river basins keeping in view the ultimate development scenario in these basins. Based on these studies NWDA has formulated proposals for diversion of 12165 Mm³ of water annually from Mahanadi through Mahanadi-Godavari link canal. From Godavari, a quantity of 26122 Mm³ of water (including waters brought from Mahanadi) is envisaged to be diverted to Krishna River through three links viz. Inchampalli-Nagarjunasagar, Inchampalli-Pulichintala and Polavaram-Vijayawada. Out of the waters brought from Godavari, a quantity of 14080 Mm³ is envisaged to be diverted from Krishna to Pennar through three link canals viz. Almatti-Pennar, Srisailem-Pennar and Nagarjunasagar-Somasila. From Pennar, a quantity of 8565 Mm³ of water is proposed to be diverted towards Cauvery River through Somasila - Grand Anicut link. Further down south Cauvery - Vaigai - Gundar link canal is proposed to divert a quantity of 2252 Mm³ of water to meet the demands of area lying below Cauvery river upto Gundar basin in Tamilnadu State. This report deals with the Feasibility Report of Cauvery-Vaigai-Gundar link proposal.

The objective of preparation of this feasibility report is to facilitate firming up of the proposals and for discussions among the concerned States to arrive at broad agreements on the quantum of diversions, sharing of costs etc.

The Cauvery – Vaigai – Gundar link project envisages diversion of 2252 Mm³ of water, from Kattalai barrage proposed by NWDA at a location downstream of the existing Kattalai bed regulator across Cauvery River. The link will be terminated at RD 255.60 km in Gundar River.

The total length of Cauvery – Vaigai – Gundar link canal is 255.60 km. The canal will run parallel and adjacent to the existing New Kattalai High Level Canal upto RD 36 km and then traverse a distance of 219.60 km before joining Gundar River.

The link canal traverses through Karur, Tiruchchirappalli, Pudukkottai, Sivaganga, Ramanathapuram and Virudhunagar districts of Tamil Nadu passing through the river basins of Tirumanimuttar, Ponnanaiar (both sub-basins of Cauvery basin), area covered by the Streams between Cauvery and Vaigai, Vaigai basin and area covered by the Streams between Vaigai and Vaippar. A new barrage at Kattalai is proposed to be utilized as off take of canal for the intended diversion.

The link canal will provide irrigation to an area of 337717 ha in the districts of Karur, Tiruchchirappalli, Pudukkottai, Sivaganga, Ramanathapuram, Virudhunagar and Thoothukudi of Tamil Nadu state. For identifying the culturable area and ascertaining the irrigability of the land, the soil survey and land use reports prepared by Soil Survey and Landuse Organisation, Department of Agriculture, Government of Tamil Nadu are considered. The intensity of irrigation is proposed to be 100%. A cropping pattern was devised by NWDA appropriate to the command area. The irrigation water requirement is estimated to be 1952.3 Mm³.

Apart from irrigation, it is also proposed to provide for future domestic and industrial water requirements in the command area. Additional domestic and industrial requirements, projected to 2050 AD, are estimated to be 62 Mm³ and 123 Mm³ respectively. Transmission losses in the link canal are estimated to be 114.7 Mm³.

The Cauvery – Vaigai – Gundar link project does not involve construction of any large dam but involves only construction of a diversion structure. Also looking at the region through which the 255.60 km long canal is traversing, neither the construction of diversion structure nor the link canal is expected to lead to any adverse environmental impact. Hence detailed environmental study has not been carried out at the Feasibility Report Stage. These studies will be carried out at DPR stage.

The link canal alignment does not cross any built up area and hence no R&R of displaced population is anticipated. The link project on implementation would create lot of employment opportunities for local population during construction and maintenance phase as such the economic conditions of the people in the region will improve.

The link canal is designed as a lined canal with trapezoidal shape with rounded corners. The maximum carrying capacity of the canal is 180.30 cumec with corresponding cross section of 20.40 m of bed width and 5 m of full supply depth in the head reaches. The canal passes mostly through agricultural fields.

Direct benefits per annum from the link project due to irrigation, domestic and industrial water supplies are estimated to be Rs. 940 crores. The capital cost of the link canal is estimated to be Rs. 2673 crores at 2003-04 price level. The annual cost of the project is Rs. 299 crores. The Benefit Cost Ratio works out to 3.14. The apportioned cost of water brought for this link project by the upper links are not added to the capital cost. The B.C. ratio may undergo a change if the cost of transferring surplus waters from the upstream link canals is also considered.