

## **PREFACE**

Water resources development and management is a key area which needs focused attention for proper utilization of water which is a precious natural resource. The development, conservation and use of water, therefore, play a vital role in the country's development planning. The water resources in the country are, however, limited. The rainfall in the country is mostly confined to monsoon season and is unevenly distributed with respect to both space and time. As a result, some parts of the country are affected by droughts whereas other parts are affected by floods. Water will become a scarce resource in the near future due to increasing population and increasing demands for various uses due to continuous improvement in the living standards of the people. So, the monsoon flood waters should be conserved and utilized for drinking, irrigation, power generation etc. in the needy areas.

Raichur district is one of the drought affected and backward districts of Karnataka. The district is coming under Kalyana Karnataka Region which is backward region and is therefore given a special status under article 371 J by Parliament of India. Part of Tungabhadra project LBC command area of Tungabhadra sub basin of Krishna basin lies in Raichur district. Water balance study up to Tungabhadra dam site of Tungabhadra sub-basin is found to be deficit to the tune of 712MCM at 75% dependability as per the studies of NWDA. At present only part of the command has been provided irrigation due to shortage of water and therefore needs augmentation from other surplus basins.

In this regard, NWDA had prepared PFR of Bedti-Varada link project considering diversion dams at Pattanadahalla and Shalamalahalla (NPP proposal) in July 1995 and PFR of Bedti-Dharma-Varada link (intra state link proposal of Karnataka) in the year 2017. Government of Karnataka requested to modify the proposal considering weirs/barrages instead of dams to avoid submergence of reserved forest in the Western ghats. Accordingly, DPR of Bedti-Varada link considering both the above proposals for diversion of 524 MCM of surplus waters of Bedti basin to irrigate 1.049 lakh ha area under TBLBC tail end command of Tungabhadra project in Raichur district of Karnataka is now prepared.

As per the DPR, Bedti-Varada link (Link-I) envisages diversion of 302 MCM of monsoon surplus water from proposed Pattanadahalla & Shalamalahalla weirs on Pattanadahalla & Shalamalahalla streams in Sirsi taluk of Uttara Kannada district. Surplus water from Pattanadahalla is diverted to Shalamalahalla weir by gravity through a 6.9km conveyance system in which 0.4km is canal and 6.5km is tunnel. The combined water is proposed to be lifted from the right bank of Shalamalahalla weir through a height of 107.5 m and let into a stream leading to Varada river through a conveyance system of 18.58 km consisting 10.15km raising main, 6.7km tunnel and 1.73km canal. Area proposed for irrigation under this link is 60300 ha.

Bedti-Dharma-Varada Link (Link-II) envisages diversion of 222 MCM of monsoon surplus water from proposed Suremane barrage, on Bedti river in Yellapur taluk of Uttara Kannada district. The water is proposed to be lifted from the left bank of Suremane barrage through a height of 185.5 m (in two stages) and let into a stream leading to Dharma reservoir, which is a tributary of Varada in Tungabhadra sub-basin through conveyance system of 26.88km consisting 22.3km raising main, 0.35km canal & 4.23km tunnel. Area proposed for irrigation under this link is 44600 ha.

Thus, the link proposal will augment 1.049 lakh ha under the existing TBLBC command in Manvi, Sirwara, Devadurga and Raichur taluks of Raichur district providing irrigation during kharif season. Total power required for lifting the water is about 181.3 MU per year.

The DPR of the link project has been prepared as per the 'Guidelines for Preparation of Detailed Project Report of Irrigation and Multipurpose Projects - 2010', of the then Ministry of Water Resources, Government of India. No detailed surveys and investigations have been carried out as part of the DPR and the report has been prepared based on toposheets and DEM data. Required investigations will be carried out at pre-construction stage. The total cost of the project has been estimated as Rs. 2818 crore at 2020-21 price level. The benefit-cost ratio of the project is 2.77.

The Detailed Project Report has been prepared in three volumes.

- Volume – I : Main report
- Volume – II : Annexures
- Volume – III : Drawings

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I would also like to place on record my sincere appreciation to Superintending Engineer, Investigation Circle, Hyderabad, Executive Engineer, Investigation Division, Bengaluru and their officers for their relentless effort in fruitfully accomplishing preparation of the DPR within the stipulated time. I would like to place my sincere appreciation to Shri K S Naidu, Assistant Engineer of this office for relentless effort in refining the report in very short period extending his working hours beyond office hours and to weekends. It is hoped that the link project will be implemented by the Karnataka state soon to derive the envisaged benefits.

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(Dr. R.N. Sankhua)  
Chief Engineer(South), NWDA