

PREFACE

Management of water resources to achieve equitable distribution is one of the key issues in our country today, more so, due to dwindling per capita water availability. Water is indispensable for life and forms the basis for sustainable economic development. Growth and expansion of economic activities inexorably lead to increasing demand of water for various purposes. The nation faces a number of challenges affecting the availability, accessibility, use and sustainability of fresh water, which have serious implications for the present and future generations and for the natural eco-systems.

Over exploitation of Groundwater in the last few decades has resulted in the faster depletion of Groundwater resources. The Central Ground Water Board (CGWB), studies indicate that the Groundwater usage has increased abnormally in Krishnagiri & Vellore districts of Tamil Nadu. Especially in Vaniyambadi taluka of Vellore district, the groundwater utilization is found to be almost twice the annual replenishable groundwater and net availability of groundwater for future development is almost nil.

It is in this context, the Government of Tamil Nadu proposed to divert the flood water from the Ponnaiyar river to the water short Palar basin, since it has been observed that during monsoon months, the Ponnaiyar river is usually in spate while the Palar river mostly remains dry. On the request of Government of Tamil Nadu, NWDA has prepared the Pre-feasibility Report (PFR) of Ponnaiyar (Krishnagiri) - Palar Intra-state link project, as per the enhanced mandate, and circulated the same during March, 2011. Subsequently as part of optimisation of the proposal, further studies were carried out by NWDA and an alternative proposal of link project, taking off from the existing Nedungal Anicut (located 16 km downstream of Krishnagiri dam) has been planned, instead from Krishnagiri dam. The alternate proposal 'Ponnaiyar (Nedungal) - Palar link Project' is found to be techno-economically viable.

The Government of Tamil Nadu vide letter dated 7th January, 2013 has conveyed their consent for preparation of DPR of 'Ponnaiyar (Nedungal) - Palar link project'.

Detailed topographical surveys of the link canal project, Hydrological studies, Irrigation planning, Design Aspects and Detailed Estimates including Construction Programme, Manpower & Plant Planning etc., were carried out by NWDA. The Geological & Geotechnical investigations were carried out by Geological Survey of India (GSI, Chennai),

Geophysical investigations by CSIR-National Geophysical Research Institute (NGRI, Hyderabad), Construction materials Investigations, Geotechnical investigations including Borrow areas & Foundation investigations and Laboratory testing of Rock core samples by Central Soil and Materials Research Station (CSMRS, New Delhi), Archaeological Survey by Archaeological Survey of India (ASI, Chennai) and Mineral survey for the link canal were carried out by Engineering Geology Division, Geological Survey of India (GSI, Chennai) respectively. The Terms of Reference (TOR) for carrying out the EIA studies have been submitted to the State Environmental Impact Assessment Authority (SEIAA), Government of Tamil Nadu, for which approval has been obtained. The Comprehensive Environmental Impact Assessment (CEIA) and Socio-economic studies will be taken up separately by the project proponent.

The Ponnaiyar (Nedungal) - Palar intra state link project envisages diversion of 86 Mm³ of flood waters at Krishnagiri dam from Nedungal anicut by way of regulated releases through the proposed Ponnaiyar (Nedungal) - Palar link canal to feed enroute system tanks for irrigation and for recharging the Groundwater enroute the link canal in Krishnagiri & Vellore districts as well as in Vaniyambadi taluka of Vellore district at tail end in Palar basin for stabilizing the existing ayacut presently being irrigated under open wells/tube wells thereby benefitting an area of 9850 ha annually besides providing drinking water supply to the enroute villages.

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 Ministry of Water Resources, Government of India. The total length of the link canal is 54.15 km. The total cost of the project has been estimated as Rs. 648.23 crore at 2017-18 price level. The Benefit-Cost ratio of project is 1.79 and the Internal Rate of Return (IRR) is 13.32%.

The Project Report has been prepared in four volumes.

Volume – I	:	Main Report
Volume – II	:	Annexures
Volume – III	:	Appendices
Volume – IV	:	Drawings

The Director General, NWDA continuously monitored the progress of preparation of Detailed Project Report and provided valuable guidance and advice which helped in timely completion of the DPR. His contribution in this regard is gratefully acknowledged. I also

acknowledge the support provided by Chief Engineer (HQ), NWDA, New Delhi and his team. I express my sincere gratitude to Shri R.Selvam, Chief Engineer, Plan Formulation, PWD, Shri S.Natarajan, Spl.Chief Engineer of PWD, Plan formulation, WRD, Collectors of Krishnagiri & Vellore districts, Government of Tamil Nadu and their teams, for their continuous support and co-operation extended to NWDA survey teams and officials from time to time during Survey & Investigation works as well as during preparation of DPR. Their contribution in this regard is thankfully acknowledged. I also would like to place on record my sincere thanks to my office and the Superintending Engineer, Investigation Circle, Hyderabad and Executive Engineers of Investigation Division, Bengaluru and Chennai and their team for their meticulous planning and untiring efforts due to which the DPR could be completed within the stipulated time.



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