

LABOUR INTENSIVE TECHNOLOGY IN WATER RESOURCES DEVELOPMENT – INDIAN EXPERIENCE



PUBLICATION NO. 139

CENTRAL BOARD OF IRRIGATION AND POWER
Indian National Committee for International Commission on Large Dams
Kasturba Gandhi Marg, New Delhi.

(Issued on the Occasion of Golden Jubilee Congress of International Commission on Large Dams)

New Delhi


October 1979.

ACKNOWLEDGEMENT

This publication has been brought out under the guidance of a Special Committee constituted by the Central Board of Irrigation and Power for this purpose. Shri M.G.Padhye, Member, Central Water Commission was the Chairman of this Committee with the following Members:

1. Shri B.N. Aich, Chief Engineer (D&R), Irrigation and Waterways Directorate, Calcutta.
2. Shri A. Nagabhushana Rau, General Manager, Hindustan Construction Co. Ltd., Bombay.
3. Dr. J. Purushottam, Chief Engineer, I&P Department, Central Designs Organisation, Hyderabad.
4. Shri M.D. Deshmukh, Chief Engineer (SP), Irrigation Department, Pune.
5. Shri C.Etty Darwin, Member, Kerala State Electricity Board, Trivandrum.

The Board gratefully acknowledges the contribution of this Committee in the planning of this publication.


(C.V.J. VARMA)
Secretary

Central Board of Irrigation and Power

F O R E W O R D

India has been bestowed with substantial water resources. The overall surface water resources of the country have been assessed as 1880 thousand million cubic metres. It is envisaged that out of this it may be possible to harness about 700 thousand million cubic metres of water for irrigation. In addition the ground water resources of this country are assessed at 270 thousand million cubic metres.

The total population of the country is over 630 million (1978). By the turn of the century the population may be expected to reach a figure of over 900 million. The food requirements of this population may be over 200 million tons as against the production of 126 million tons in 1977-78. To provide adequate food and fibre to the population, provision of irrigation facilities to as large an area as possible in as short a period as possible, therefore, forms one of the important tasks before the country. Further, about 75 percent of the population is rural and depends for employment on agriculture and allied operations. A portion of the rural population is also landless. Water resources development projects which are located in the rural areas may be expected to provide relief to these otherwise unemployed and seasonally unemployed population initially during their construction phase and also during their operation phase.

TABLE OF CONTENTS

Foreword

1.	Labour Intensive Technology in Water Resources Development Projects	M.G. Padhye	3-8
2.	Tawa Project	M.P. Hirmath	9-17
3.	Pench Project ⁵	S.M. Bhale Rao K.M. Shukla and S.S. Kulkarni	18-30
4.	Jayakwadi Project	D.L. Garud	31-42
5.	Construction of clay-concrete diaphragm for the Mula Earth Dam	M.A. Chitale and G.E. Shukla	43-56
6.	Sarda Sahayak Project	G.K. Mishra	57-65
7.	Kadana Dam	V.B. Patel	66-77
8.	Construction and management of large projects-Nagarjunasagar Project and Godavari Barrage project	J. Purshottam	78-95
9.	Lower Manair Dam	R.C. Rao	96-100
10.	Kallada Irrigation Project	V. Lakshmana Iyer	101-107
11.	Modernisation of Periyar-Vaigai Irrigation System	J.N. Dawson	108-123
12.	Mayurakshi Reservoir Project	B.N. Aich	124-127
13.	Mahanadi Reservoir Project, Totaldoh Project and Godavari Barrage Project	D.R. Sikka	128-140
14.	Excavation of Venkatayapalem Deep cut in the canal system of - Nagarjunasagar Dam Project	R.C. Rao	141-149
15.	Bhatsa Dam	M.D. Deshmukh	150-158
16.	EGS Activities on Jayakwadi, Mula, Kukadi and Bhima Projects in Maharashtra	M.D. Deshmukh	159-167
17.	Srisaillam Hydro Power Project	M.L. Swamy	168-181
18.	Srisaillam Dam Construction	R.C. Rao	182-190
19.	Idukki Hydro Electric Project	C.Etty Darwin	191-203
20.	Mechanisation on Warna Dam	M.D. Deshmukh	204-208
21.	Beas Satluj Link Project	R.K. Malhotra	209-221