

# IRRIGATION AND ECONOMIC DEVELOPMENT



*Edited by*

**Dr.S. THEENATHAYALAN**  
**Dr.P. KANNAN**



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**Editors** : **Dr. S. THEENATHAYALAN**  
*Associate Professor & Head*  
*Post Graduate Department of Economics and*  
*Centre for Research in Economics*  
*The Madura College (Autonomous)*  
*Madurai, Tamil Nadu, India*

**Dr. P. KANNAN**  
*Associate Professor*  
*Post Graduate Department of Economics and*  
*Centre for Research in Economics*  
*The Madura College (Autonomous)*  
*Madurai, Tamil Nadu, India*

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## CHAPTER 4

# CONSTRUCTION OF CHECK DAM IN MADURAI FOR WATER SUPPLY AND WATER MANAGEMENT

**Dr. P. KANNAN**

*Associate Professor, Department of Economics & Centre for Research in Economics  
The Madura College (Autonomous), Madurai*

### Introduction

Water is a natural resource, fundamental to life, livelihood, food security and sustainable development. It is also a scarce resource. India has more than 17 per cent of world's population but it has only 4 per cent of world water resources. Thus availability of water is limited but demand for water is increasing rapidly due to growing population, rapid industrialization, urbanization and economic development. In addition there are inequities in the distribution of water and lack of proper planning and management of water resources. National water policy emphasized for water use efficiency, rural urban water supply. Water is required for domestic and agricultural, industrial purposes. Hence it should be optimized and an awareness of water as a scarce resource should be fostered and we have to minimize the usage of water as much as possible.

Madurai known as "Temple city" is one of the oldest cities in India. It is the second largest city in Tamilnadu. Madurai city's water requirement is 155 MLD as per the norms 135 liters per capita per day prescribed by central public health and environment engineering organization. The city is currently getting 83 MLD of water from the first vaigai water supply scheme. Ministry of urban development sanctioned Rs.477.00 lakhs for construction of three check dams across river vaigai at Kochadai, Mellakkal and Manaker. These three check dams were constructed across river vaigai to increase the water potential.

### Scope of the Check Dams

- The river vaigai is not a perennial consequently the yield of check dam fluctuates.
- To augment the water supply to the city.
- Madurai corporation has the water supply from these check dams.

### Salient Features of Check Dam

- These dams have been designed to hold 80,000 cusects of water
- Length of wall 240.00 m.
- Side cut off wall 2.20 m
- Crust level – 1.20 m.
- Top width of body well 2.00 m.
- Down gide cut off wall 3.30. m.
- Floor length 15.00 m.



The state public works development has executed the work. It is comprised of upstream cut off wall, crust wall, side abutment wall. Wing wall and retaining wall.

### **Funding Pattern of Check Dams**

- Government of India (50 per cent of share)
- Government of Taminadu (20 per cent share).
- Madurai corporation 30 per cent of share. The cost escalation was shared by Government of Tamilnadu and Madurai corporation in the ratio of 75:25.

### **Water Supply Scheme**

The vaigai water supply scheme consist of three packages.

The first package comprises of laying of raw water main, clear water main, break pressure tak, intake well, near vaigai dam, pipe carrying bridge at varaganathe collection well constructed at a distance of 1.5 km of raw vaigai dam and feeder main.

The second package comprises construction of stilling basin at pannaifatty flash mitture, acreator, chemical lands, at fannainpatty chlorination plant and up gradation of clariflocculator and filter dedat pannaipaty. The third package comprises of construction of 3 service reservoirs of 16 of lak liters capacity at HMScdamy and 14 a 10 liter capacity at sundarrajapuram, P.T. Nagar 5 laksh liter capacity at Maruthem kumal and lay is water mains for 139 kms.

The check dam outcome three check dams are expected to augment the ground water recharge in and around dams. The water availability is expected to increase by 20 MLD.

- The per capita water supply will increase.
- The Erosion of sand will be minimized.

### **Water Supply Outcome**

1. Augmentation of designing water supply.
2. Increase the Percapita water supply from 60 pcd to 100 / pcd.
3. Increase in water supply net work from 80 % to 100 %.
4. With drawal of water supply through larries.
5. The corporation revenue will increase from deposits, user charges waiver of deposit upto Rs.3000 and subsidied tariff Rs.275 for the urban poor.

### **Conclusion**

Every drop water counts when it we waste water a drop in a minitute, we waste 15 liters of water in a day and 5475 liters of water in a year. The various water uses of river basing will complete with each other infuture.

- Let us think
- Water has not substitute
- Save the water for future.

### **Reference**

1. Office records of Madurai caporation.

## About the Editors



**Dr.S. THEENATHAYALAN** is presently serving as Associate Professor and Head, Department of Economics and Centre for Research in Economics of The Madura College (Autonomous), Madurai, Formerly Member – Syndicate and Member Convener Committee, Madurai Kamaraj University. He has credibly maintained consistent academic records in his post graduate studies with a University Rank. He started his teaching career in July 1991 with a passion for teaching for more than 3 decades. He has produced 11 Ph.Ds, 32 M.Phil and published 15 books.

He was also the organizing secretary of 10 National Seminars, 1 National Conference and 3 International Conferences. In addition, he has delivered 80 plus invited lectures at the UGC HRDC and keynote addresses in Economics in National, International conferences and radio talks. His research contributions are also outstanding. Under his guidance, eleven students got their Ph.D. degrees. 31 M.Phil graduates and many PG students have completed their projects under his guidance. At present, 7 Ph.D Scholars and one post-doctoral fellow are working under him.

He has published 15 books, 34 research papers and reviews in national and international journals of repute. His academic contributions involve membership and chairmanship of Board of Studies of various institutes. He was also recipient of "Best teacher award", "Best NSS Programme Officers Award", "Senior Economists award" and "Eminent Academician award". Besides he served as NAAC Coordinator, IQAC Coordinator and Dean of Academics and Research in the college.



**Dr.P. KANNAN** graduated from N.M.S.S.V.N. College, Nagamalai, Madurai and took his M.A, M.Phil., Ph.D. from Madurai Kamaraj University. He began his teaching profession from 2000 onwards. He has been serving for more than two decades as Associate Professor, PG Department of Economics and Centre for Research in Economics, The Madura College, (Autonomous) Madurai.

He has been handling Classes from undergraduate to M.Phil levels with greater reliance on insight, lateral thinking inspiration and sagacity. He has organized and participated in quite a few number of National, State level and Regional Seminars, Workshop and Conferences and has contributed articles in research journals of repute. His academic contributions exemplify his ability towards carrying out high quality teaching, research and extension work with focuses understanding, sanctity of thought and liveliness. Being a Research Guide he produced 13 M.Phil candidates. He is effectively affianced with all the college curricular and co-curricular activities.



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