

**FINANCIAL ANALYSIS OF WATER SUPPLY  
PROJECT – A CASE OF ISLAMABAD CAPITAL  
TERRITORY**

**SUBMITTED BY:  
FAHAD SULTAN KHAN  
MBA**

**222001-014**



**SUBMITTED TO:  
THE FACULTY OF BUSINESS ADMINISTRATION  
BAHRIA UNIVERSITY ISLAMABAD**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF  
MASTER IN BUSINESS ADMINISTRATION**

**2004**

## ABSTRACT

It is generally accepted that the provision of safe water is a major factor behind the improvement of living conditions and economic development. Islamabad is facing increasing water shortages; the present water supply is not sufficient to bare future requirements to support the healthy living of the present population. Therefore to solve this problem it is necessary to complete new water supply schemes before this problem become severe.

Water supply from shah Allah Ditta Reservoir to Islamabad is one of the project that will solve present as well as future water requirements of Islamabad. The planning horizon adopted for the study is the year 2030. The projection of future population and water demand has been calculated up to the planning horizon. The basis of cost estimate is previous project rates (Rawalpindi Urban Water Supply and Sanitation Project) that were Asian Development Bank funded.

The cost of water per 1000 gallons including capital cost and O&M cost at 10% discount rate comes out to Rs 14.57. Which is Rs 6.57 more than the prevailing average tariff of Rs 8. Expected profit of the project for ten years after normal capacity is reached (at proposed tariff of Rs. 16 per 1000 gallons) comes to Rs. 482.33 million . The revenue per 1000 gallon at prevailing tariff rate is Rs. 8.00 and at proposed tariff is Rs 16.

As regards risks of cost overrun or revenue shortfall they have been analyzed in sensitivity analysis.

According to WTP survey conducted in the beneficiary area, the beneficiaries in the area are on average willing to pay Rs.2.20 per 1000liter (Rs.9.98 per 1000gal). It is assumed that their willingness to pay will grow in future in parallel with the growth of their income.

Benefits derived from the project are

- i) More area served.
- ii) Continuous availability of water to the consumer.
- iii) Improved quality of life.
- iv) Reduction in water borne diseases.

# TABLE OF CONTENTS

<b>Chapter</b>	<b>Page No</b>
<b>1. PROBLEM AND ITS BACKGROUND</b>	
1.1 Introduction	1
1.1.1 Characteristics of water supply Projects	2
1.1.2 Project Cycle	3
1.1.3 Collection of Data	4
1.1.4 Financial and Economic Analysis	6
1.2 Problem Statement	8
1.3 Broad Problem Area	8
1.4 Scope of Study	9
1.5 Limitation of Study	9
1.6 Definition of the Terms	10
<b>2. LITERATURE REVIEW</b>	
2.1 Water Supply Project For Muzaffarabad	13
<b>3. METHODOLOGY</b>	
3.1 Method of Data Collection	22
3.1.1 Collection of Secondary Data	22
3.1.2 Collection of Primary Data	23
3.2 Contingent Valuation Method	26
3.2.1 Use of WTP Data	27
3.2.2 Design of WTP Questions	28
3.2.3 Reliability of WTP Data	30
3.3 Demand Forecasting	34
3.4 Financial Analysis	36
3.4.1 Financial Revenue	37
3.4.2 Project Costs	41
3.4.3 Financial IRR and NPV	43
3.4.4 Sensitivity and Risk Analysis	43
<b>4. FINANCIAL ANALYSIS OF THE PROJECT</b>	
4.1 Introduction	53
4.1.1 Project Description	54
4.1.2 Population Projection	54
4.1.3 Sources of Water Supply	54
4.2 Financial Analysis	
4.2.1 NPV and IRR	65
4.2.2 Sensitivity Analysis	65
4.2.3 Cash Flow Statement	65

4.3 Financial Analysis Outcome	81
4.4 Willingness To Pay Questionaire	83

**5. CONCLUSION AND RECOMMENDATION**

5.1 Conclusion	90
5.2 Recommendation	100

**APPENDICS**

A. Bibliography	103
B. Abbreviation	105

**PROJECT CD**