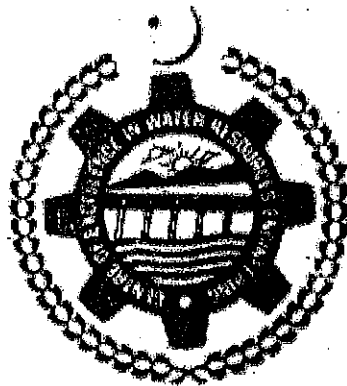


**THESIS**

**ANALYSIS OF CAUSES OF COST AND TIME OVERRUN IN  
CONSTRUCTION OF SELECTED WATER RESOURCES  
PROJECTS**



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(2002-PG-WRE-29)**

**For the Degree of**

**MASTER OF SCIENCE**

**IN**

**WATER RESOURCES ENGINEERING**

**CENTRE OF EXCELLENCE IN WATER RESOURCES ENGINEERING,  
University of Engineering and Technology, Lahore-Pakistan**

**2006**

## ABSTRACT

The management of water resources projects is becoming more & more complex due to non-availability of required resources and skilled personnel. Project management, so far has been accorded least importance in Pakistan, but now it is felt that such form of Project Management is necessary when large and complex undertakings are involved as its effectiveness can significantly influence the cost of a project and the time taken to complete it.

Project review and evaluation is one of the tasks of project management each phase. In considering the approach to project evaluation, one must remember that every project is dynamic and continually changing as the developing provides. The purpose of project evaluation is to ascertain whether or not the project cost, time overrun and like other matter is going as per schedule. The planning and implementation of capital projects is the backbone of economic development but most developing countries lack the necessary expertise for handling such projects. Consequently, delays and overruns occur and the implementation falls short of expectation not because the original formulation was incorrect, but for other reasons.

The purpose of this study is to identify the causes of cost and time overrun in the construction of selected water resources projects in Pakistan, assess the relative importance of the causes of cost and time overrun as well as also to suggest measures to minimize the cost and time overrun in the construction of future resources projects in Pakistan.

Four projects namely (Akra Kaur Dam project, Jagran Hydropower project Ghazi Barotha Hydropower project and Left Bank Outfall Drain project) were selected for detailed analysis of causes of delays, time and cost overruns and mistakes in management strategy in accordance with this research study,

As a pre-requisite of project evaluation, different projects related documents (PC-1 proforma, project related correspondence monitoring reports, monthly, quarter and annual process reports were reviewed & also (contractors program and contractors detail method) were studied and reviewed. These documents, were obtained mostly from the consultants and Clients' offices. Main stress is given on technical performance, physical performance and managerial performance. These areas generally provided an insight into projects operation and accomplishments, as well as problems encountered during implementation with particular reference to implementation delay, reasons and causes of delay and effects of implementation delays and cost overruns. Field surveys were also done for collection of data from the inhabitants and answers were record. By *using* the available data of the different projects, different graphical patterns and tabular forms have been developed by interpreting the data for evaluation and analysis. During the study, the causes of delay were investigate based on the available data and resources of the completed projects separately. A Questionnaire also completed by the key personnel concerned with the projects in different stages, from the Client, Engineer and the Contractor was used for analyzing the causes of delay and evaluation.

The completion of the projects was delayed significantly due to inefficient project's planning and implementation by the Client. Most important input of the projects i.e. land required for construction was not acquired by the Client. No alternative either from the client or the Contractors has been studied to complete the work within scheduled time. The role of Consultants remains positive towards the solution of problems faced by the Contractors and Client within their scope of work.

The problems faced by the Client are most of management nature. The inefficient project planning, preparation and non realistic appraisal/assessment about some of the Project inputs which are specific characteristics of project planning in Pakistan have been practiced in these projects due to which they suffered badly even from the start. Frequent changes in legislation of the country due to financial constraints, imposition of certain policies delays in resolving the matters relating to project implementation due to lack of coordination and cooperation among various agencies at Government level contributed a

lot in making these projects an example of badly/poorly managed projects in a scenario where timely completion of projects are important due to severe constraints on financial resources of the country.

This was analyzed by evaluating the four projects, major problems like contract award land acquisition and import of materials and equipment is 40%, unforeseen geological conditions is 30%, consultant and design is 20% and Miscellaneous hindrances are 10%.

It is finally concluded that preference should be given to short duration /gestation projects over the larger projects to accrue the project benefits earlier and scope of the projects should not be increased substantially during project implementation which may cause unnecessary delays in project completion and its intended benefits.