This Thesis is the study of ananalysis of cost and return on the pipe rehabilitation project of Metropolitan Waterworks Authority. It operates during the budget year of 2529-2534, total length of the project is 6 years. The purpose of this project is to reduce the water waste from 41% of all pumped water supply volume in the budget year of 2529 to 31% in the budget year of 2534. The study emphasizes the analysis of the return from the project by study the facts that occurred during the budget year of 2529-2533 and the estimated data from the working plan of Metropolitan Waterworks Authority in the budget year of 2534.

The analysis of return from the investment was analyzed in 2 separate cases according to the structure of source of capital that is used in the budget year of 2534. The result of the analysis found that the project has payback period about 2 years and 9 months. The internal rate of return is to 55.67%, the benefit-cost ratio is 1.36 and the net present value is 409,481,083.98 bahts at the rate of the minimum return from the investment of 9.535% in the case of getting the source of capital in the budget year of 2534 from issuing bonds and 397,405,683.19 bahts at the rate of the minimum return from the investment of 10.14% in the case of getting the source of capital in the budget year of 2534 from issuing promissory notes. Besides, an analysis was made for the case where the MWA was responsible for providing all the fund for the project by itself, with no supporting fund from Government. The result of the analysis showed that the minimum return calculated from cost of capital is between the rate of 9.48-10.14, about the same rates of the minimum return from the investment of project of 9.535% and 10.14%. Therefore, it can be summarized that the project is worth to invest in. However, this analysis was done during the process of the project, the writer therefore repeated the analysis in case the estimated facts changed, by providing 10% the expense fluctuation in estimate, taking into consideration the primary facts between October-December 2533. The result is the same, the payback period is about 2 years and 9 months, the internal rate of return is 54.49%, the benefit-cost ratio is 1.33 and the net present value is 386,825,037.73 bahts and 375,357,133.44 bahts when considerd from the mentioned sources of capital respectively. From the result of the analysis under different situations as mentioned above it can be said that the important things that make the return worth the investment are as follow:

1. The Metropolitan Waterworks Authority can get the low cost source of capital with the good length of time which is neccessary for the big project investment.

2. Cash outlay is small in the first year. Most of the spending started between the third and the sixth year. Postponing the cash spending caused the present cash value to decrease. The return that occurs when the task progresses systematically results quick return of the return currency wise.

The problem found in the analysis are, expense data shown in the current project plan is not all the expenses concerning the project, because some of the other operation needs the budget from the project for a quick finish of the task. Therefore, expense data used in the analysis will differ from the project expense estimated. The result of the analysis that is in monetary value can not be used to support the same kind of operation in the future, because the reduction of water waste has the limit in the rate of wastage that can be reduced at one point which is acceptable for the surroundings in the service area. Therefore, only the consideration to reduce the rate of wastage might not create a good result as at present. Hence, when financial analysis is made, data needed to be analyzed as suggested by the above-mentioned guide line should give the result of the analysis that can be used for the future consideration.