ABSTRACT

Project management is one important aspect in the application of knowledge, expertise and skills to achieve the goals or objectives that have been determined in order to obtain optimum results in terms of performance, time, quality, and safety.

This study was conducted to analyze the Check Dam Project Construction Management Cipager River Kuningan start of calculating volume, implementation works, supplies (tools, labor, materials) budget plan, method, barchart, s curve, analysis critical path method and cash flow.

The results showed that the budget plan costs incurred to complete the Cipager Check Dam River Of Kuningan Regency Rp. 6,140,922,000,00 (Six billion one hundred forty million Nine hundred twenty two thousand rupiah) including 10% VAT. Then by using analysis critical path method, completion takes as long as 25 weeks, or 175 calendar days.

A. INTRODUCTION
Management project is an attempt to use limited resources efficiently, effectively and timely in completing a project that has been determined / planned. There are three activities of the basic functions of project management including planning, implementation and control. Of the three activities are performed control over the resources on a project that includes labor (manpower), equipment (machine), material (material), money (money) and method (method).

Each project has different characteristics from one project to another project of his. These different characteristics of the project will affect the progress of the implementation work in the field. The progress of work can be delayed or according on the schedule or can also be faster than planned. Therefore, we need a good project management in order to achieve the objectives of the project.

MANAGEMENT ANALYSIS OF CONSTRUCTION PROJECT CIPAGER CHECK DAM OF KUNINGAN REGENCY is expected to describe the conditions of the project making it easier for contractor to make decisions to optimize the performance of the project.

B. ISSUES FOCUS
Plan development project construction management in the method of calculating the volume of work, schedule and method of implementing development project check dam Cipager river of Kuningan Regency.

C. THEOLOGICAL ISSUES
In it’s proposed thesis proposal entitled "ANALYSIS OF CONSTRUCTION MANAGEMENT PROJECT DEVELOPMENT CHECK DAM RIVER CIPAGER OF KUNINGAN REGENCY" therefore it is necessary to limit the writing or scope of the research, limit the issues raised are as follows:

1. Calculating the Budget Plan (RAB)
2. Make Unit Price Analysis Conducted
3. Need Assessment Tool (Machine)
4. Needs analysis Materials (Materials)
5. Analysis of Manpower Requirement (Man)
6. Describe Implementation method Works (Method)
7. Plan time jobs using the method of Bar Chart and S Curve
8. Identifying Network using method Critical Path Method (CPM)

D. RESEARCH OBJECTIVES
This study was conducted in order to analyze the construction management on development projects Cipager check dam rivers, among others:

1. To find out how much the volume of work on the construction management on development project Cipager.
2. To analyze the methods of implementation the performance of the work to the dam construction project check Cipager
3. To learn about tools used in the construction of check dam the river Cipager.
4. To find out the cost of the project construction of check dam the river Cipager.
5. To determined analysis CPM methods, Barchart, S Curve and Cash Flow.

E. USES RESEARCH
1. Theoretical Uses
   a. As reference material research on construction management.
   b. Adding to mindset students in learning, observing, and understanding the issues related to the field of civil engineering.
2. Practical Utility
   a. Knowing the process of preparation of the project implementation schedule due to delays in the implementation of the field (Re-Schedule).
   b. Knowing the project implementation methods used in the construction of check dams.
   c. Adding to the scientific understanding of the management of the project directly. And determine the
calculation of the volume of work.

F. FRAMEWORK FOR THINKING

![Flowchart Research](image)

G. LITERATURE PREVIOUS RESEARCH

1. Research conducted by Saripudin with Title Research is Management Analysis Project Implementation Grand Prima Cirebon goal is to set the schedule of work, plan the progress of work and maintenance on the building structure with Method Using Data Analysis Methods Earned Value to analyze the costs and time, While the method CPM (Critical Path Method) as the corrective actions to analyze the network for the implementation of the project to be ideal.

2. The study was conducted by Lyta Pratama Arif titled Pengembangan Model Analisis Manajemen Konstruksi Pembangunan Waduk objective being to Analyze Barriers to Employment, Analyzing Work Implementation, project delays On Jatigede Dam Project Implementation.

3. Research Conducted by Rihad Arif Zein with Title Analisis Manajemen Pelaksanaan Proyek Ruang Produksi PT. Indo Food Cbp Cirebon goal of weeks to compile-time performance, calculate costs due to delays in project implementation, preparation of project implementation schedule in the field.

4. Research Conducted by Tanto Sutanto D to the title Analisis Manajemen Konstruksi Ruko Di Tuparev goal of re Planning Time Schedule, fees and Implementation Method.

5. Research Conducted by Yudi Sutomo entitled Analisis Manajemen Proyek Pembangunan kantor PT. Prima Multi Usaha Indonesia aim is to overcome the problems in project management such as compile-time performance, calculate costs due to delays in project implementation, preparation of implementation schedule, the Planning Time Schedule, fees and Methods Implementation. Projects in the field.

Current research is Construction Management Analysis Check Dam Construction Project Cipager Of Kuningan Regency. Basically have elements in common with previous studies when viewed in terms of its objectives is to overcome the problems in project management such as preparing a needs assessment of tools and materials, analysis methods of work, the calculation of volume and cost, the analysis time (barchart and S-Curve), networks (Critical path Method) and Cash Flow analysis.

A. Basic Theory

Project Management (Project Management) is a science that is very important in the management of a project so that the project can be completed efficiently and effectively. To achieve the employment targets to be achieved by the development of potential resources and limited time, it must be applied to the planning, evaluation, and follow-up of implementation.
have been evaluated. So in the world of construction management can be referred to as a technique which consists of knowledge, skills, and art made in the project, in order to coordinate between the parties there are and manage project resources. Basically, the project consists of the main aspects, namely:

1. Cost (Money)
2. Quality (Quality)
3. Time (Time)

Besides the elements - elements that must be managed by implementing the project itself includes:

1. Labor (Man)
2. Equipment (Machine)
3. Material (Materials)
4. Method (method)
5. Cost (Money)

General Principles of Project Management:

1. **Planning (Planning)**
   Planning is a process that systematically prepares activities in order to achieve specific goals and objectives.

2. **Organizing (Organizing)**
   Organizing (Organizing work) is as setting up an activity undertaken by a group of people, led by the leader of the group in a container organization. This illustrates the organization container structural relationships and functional necessary to distribute responsibilities, resources, and data.

3. **Actuating (movement)**
   Actuating interpreted as a management function for moving people who are members of the organization in order to carry out the activities specified in the planning. on stage This required the ability groups chairma. to drive the direct, and motivate members of the same group to jointly contribute to the success of the project management goals and objectives that have been set.

4. **Controlling (Controlling)**
   Controlling is as activities to work that has been carried out according to plan. In project management, controlling of the work done by the consultant contractor through supervision contract, where the execution of construction work performed by contractors. General superintendent obliged to gradually control of the work performed by the staff under his control to ensure that each staff has been doing a good job in the corridors. Thus, the stages of achieving targets due to be met.

**B. DATA ANALYSIS METHOD**

There are three methods of data analysis performed in this study, namely method, *bar* chart method *S* Curve and Method CPM (*Critical Path Method*). As corrective measures to analyze the network for the implementation of the project to be ideal.

**Barchart**

*Barchart* is a set of activities that are placed in vertical columns, temporarily placed in horizontal rows. The start and finish of each activity and its duration is indicated by placing a horizontal beam section to the right of each activity. Approximate start and end times can be determined from the horizontal time scale at the top of the chart. The length of the bar represents the duration of the activity and usually those activities organized by chronology jobs (Callahan, 1992).

**S curve (S-Curve)**

*S curve* is a graph created by the vertical axis as cumulative value or completion (progress) activity and the horizontal axis as the time of the S curve can demonstrate the ability of project based activities, time and weight of the work that is represented as a percentage of the cumulative of all activities project.

**Critical Path Method (CPM)**

In the method known their network of the critical path, the path that has a series of components of activity, with the total amount and the longest time period showed the fastest project completion. Thus, the critical path consists of a series of critical, starting from the first event until the last activity of the project.

**Cash Flow**

After the budget and budget distribution fee based on the time schedule is made, the next
step was made a cash budget of the project (cashflow). Cashflow is an estimate of revenues and expenditures that will be or is being done

The usefulness of the cash project, namely in terms flow:

a. Knowing the possibility of cash position in the future.
b. Knowing in advance when there is a shortage of cash, and when it will happen excess cash.
c. Setting the number of loans needed to complete a project.
d. Knowing the amount of working capital loan interest.
e. Estimating the cost of the position at the end of the project.

C. OBJECT AND RESEARCH METHOD

The research method used is the quantitative method. Quantitative method is a method that is done by collecting and studying literature relating to planning. To simplify the steps preparation of this paper is made methodology which aims to direct and streamline the time and the results to be achieved.

Methodology This study is composed of several main stages, as shown below:
1. Preparation of Survey and Identification Course
2. for primary data and secondary data on institutions and related services necessary to complete the data required in the preparation of the thesis.
3. Conducted an analysis of data obtained through the identification of problems and make formulation conclusions and recommendations Taking the of the research results.

D. RESEARCH SITES

The study was conducted at Check Dam Construction Project Cipager River, located of Kuningan Regency.

A. ANALYSIS AND DISCUSSION

In the work of check dam construction project among others:

a. The preparatory work

- Access Road
- Mobilization and Demobilization

b. Earthworks
- Excavation rocky soil with heavy equipment

Figure 2.1 Research Sites

- re-compacted piles and
- Construction Jobs
  - stone masonry Job 1: 4
  - Work shop floor use concrete quality K.100
  - Reinforcement
  - Structural work using concrete quality K.225

in this work already scheduled a way as possible so that implementation can proceed smoothly and on time.

B. ANALYSIS CALCULATION OF WORK

Volume job is to count the number of jobs in a unit volume. The work volume is calculated based on the image drinking of the building to be made.
C. NEEDS ANALYSIS MATERIALS (MATERIAL)

The material requirement can be searched based on each item of work that will be done, on each work item required the volume of work. The next step is to look for the data analysis unit price to see the percentage of use of the material in units of m³. Can be written the formula of material requirements as follows:

\[ K_{mb} = V_p \times k_{ms} \]

Where:
- \( K_{mb} \) = needs materials building
- \( V_p \) = Volume of Work
- \( k_{ms} \) = the material needs of the Union of

Table 4.3 The calculation the volume of work

D. AN ANALYSIS OF MANPOWER (MAN)

Labor is the magnitude of the amount of labor needed to complete the jobs section in one the unity of the work.

Labor Total = coefficient x Volume

Manpower Requirement / day

\[ = \frac{Coefficient \times Volume \ of \ Work}{Duration} \]

Table 4.4 Requirement calculation materials

Table 4.5 The requirement calculation analysis labor (man)
E. ANALYSIS TOOL WORKS (MACHINE)

Equipment construction splint is an important factor in a project to support the implementation of work.

### Table 4.6 Analysis the price of a unit of preparation work

<table>
<thead>
<tr>
<th>No.</th>
<th>Tanggal Pelaksanaan</th>
<th>Jenis Pekerjaan</th>
<th>Volume</th>
<th>Keterangan</th>
<th>Harga Perjam/Hari</th>
<th>Total Harga</th>
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<tr>
<td>1</td>
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<td>7</td>
<td>Capacity Tank</td>
<td>111,000.00</td>
<td>1,372,000.00</td>
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<tr>
<td>2</td>
<td>15 November 2016 s.d 20 November 2016</td>
<td>Excavator</td>
<td>7</td>
<td>Capacity Tank</td>
<td>111,000.00</td>
<td>1,372,000.00</td>
</tr>
</tbody>
</table>

F. ANALYSIS NETWORK (NETWORK PLANNING)

1. PREPARATION SCHEDULE OF WORK (METHOD BARCHART)

By planning and the results of the count then if using analytical methods barchart is as follows:

![Figure 3.1 Barchart Method](image)

2. PREPARATION SCHEDULE OF WORK (METHOD S CURVE)

Based on the planning and outcome Count Weight of Bar Chart then if using analysis S Curve is as follows:

![Figure 3.2 S curve Method](image)

G. ACTION CORRECTION (ANALYSIS OF CRITICAL PATH METHOD)

Before making a network, it is necessary to know the first dependency of each item of work on the project. It aims to find out the work which must be done before in other work done or which jobs can be done along

![Figure 3.3 Diagram CPM](image)

A. ANALYSIS CALCULATION THE CAST OF MONEY

Before making a network, so it is important to note before dependece each item work on project. It is meant to know work which to do before in the employment of other tilled or work which could be done at the same time.
Management Analysis Of Construction Project Cipager Check Dam Of Kuningan Regency

Table 4.1 Duration work

<table>
<thead>
<tr>
<th>NO</th>
<th>ITEM PEKERJAAN</th>
<th>DURASI (Minggu)</th>
<th>KODE KEGIATAN</th>
<th>PERMUTAN MUNDUR</th>
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<tr>
<td></td>
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<td>B</td>
<td>3</td>
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<tr>
<td></td>
<td>Galian Tanah Bertalu dengan alat</td>
<td>6</td>
<td>C</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Pembuatan kerami tiup aditivasi</td>
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<td>D</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Pasangan Batu 2/4</td>
<td>22</td>
<td>E</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Pek.Beton untuk Struktur K.100</td>
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<td>F</td>
<td>3</td>
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<tr>
<td></td>
<td>Pek.Beton untuk Struktur K.225</td>
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<td>G</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Pembesian</td>
<td>18</td>
<td>H</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Batu Kosong</td>
<td>3</td>
<td>I</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Float 74

Table 4.2 Dependence work

<table>
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<tr>
<th>NO</th>
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<td>I</td>
<td>3</td>
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</tbody>
</table>

Table 4.3 Dependence work

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<th>ITEM PEKERJAAN</th>
<th>DURASI (Minggu)</th>
<th>KODE KEGIATAN</th>
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<td></td>
<td>Batu Kosong</td>
<td>3</td>
<td>I</td>
<td>3</td>
</tr>
</tbody>
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Tabel 4.5 Calculation Cashflow

CONCLUSIONS AND RECOMMENDATIONS

1. Conclusion

Based on the calculations and research conducted during the works of this thesis it can be concluded some conclusions as follows:

1. From the calculation results done and the data obtained from the relevant authorities as well as the calculation of the volume of work, it can be concluded that for the needs of the labor, tools, and materials of different job every item - vary according to the volume of work and the coefficient analysis.

2. Based on the calculation of the RAB (Budget Plan) to complete the project Cipager Check Dam River District Brass until the final stages of the implementation cost of Rp. 6.141096 billion (Billion Six Hundred Forty-One Million Ninety-Six Thousand)

3. Of the estimated weight calculation completion work
Check Dam takes 34 Sunday, while based on the analysis of scheduling Critical Path Method the Project check takes 74 Sunday.

4. Viewed from the implementation of existing projects can be seen that when viewed from the performance time of the planning of the writer is faster than the data earlier project as seen from the calculation of the weight of the work, whereas for budget planning costs created by the author is greater because the authors used data unit price of wages and material Year 2016.

5. By using the CPM method is known trajectory - which occurred in the critical path of the project, namely the Employment Preparation - Site Work - Construction Work

2. Suggestions

Based on the calculations and research conducted authors can provide advice, as follows:

1. Needed study on identification of the problems that will occur in the project because it would affect the scheduling of the project implementation time and cost planning.

2. In planning the completion time project scheduling, not only analyzed by calculating the weight of work alone but is heavily influenced by the experience in the field.

3. CPM method is very helpful to overcome the probability of the project completion time.

4. For the method of implementation in the field with the plan should be appropriate in order to obtain maximum results.

5. Prices of wages and materials in accordance with the provisions established on the territory of Majalengka in order to get the budget in accordance with the existing tag field.

BIBLIOGRAPHY


