

**STUDY OF WATER – SUPPLY SYSTEM  
IN PDAM KABUPATEN KUPANG**

Final Project Report

As a requirement for obtaining Bachelor Degree  
from University of Atma Jaya Yogyakarta

By:

Inacio Maria Deonal De Fatima

08 13 13118



**Department of Civil Engineering International S1 Program**

**Faculty of Engineering**

**UNIVERSITAS ATMA JAYA YOGYAKARTA**

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## APPROVAL

Final Project Report

### STUDY OF WATER SUPPLY SYSTEM

### IN PDAM KABUPATEN KUPANG

By:

INACIO MARIA DEONAL DE FATIMA

Student Number: 08 13 13118

Has been checked and approved by

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Anastasia Yunita, ST, M.Eng

Head of Civil Engineering Department



M. Januar Sudjati, ST, M.T

# LEGALIZATION

Final Projects Report

## STUDY OF WATER SUPPLY SYSTEM

IN PDAM KABUPATEN KUPANG



By:

INACIO MARIA DEONAL DE FATIMA

Student Number: 08 13 13118

Has been examined and approved by the examination committee:

| Name                                       | Sign | Date       |
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| Member : Ir. John Tri Hatmoko, M.Sc        |      | 23/10/12   |
| Member : Ir. Peter F. Kaming, M.Eng., Ph.D |      | 22/10/12   |

## STATEMENT

I, the undersigned below, truly state that the final project titled:

### **STUDY OF WATER SUPPLY SYSTEM IN PDAM KABUPATEN KUPANG**

is really my own work and not a result of plagiarism from other person's work. The idea, data of research's result as well as direct or indirect quotations from other person's writing or idea are written in the most proper way in this final project. If in the future time, this final project is proven to be a result of plagiarism then the undergraduate certificate that I obtained will be canceled and returned to the Rector of Universitas Atma Jaya Yogyakarta.

Yogyakarta, 22 October 2012



(Inacio Maria Deonal De Fatima)

<sup>7)</sup>Mintalah, maka akan diberikan kepadamu; carilah, maka kamu akan mendapat,  
ketoklah maka pintu akan dibukakan bagimu

<sup>8)</sup>Karena setiap orang yang meminta, menerima dan setiap orang yang mencari,  
mendapat dan setiap orang yang mengetok, baginya pintu akan dibukakan

(Matthew 7: 7 ~ 8)

*These two bible paragraphs that make me do believe in  
God about His Greatness and Glory. Sooner or  
later any efforts that I do in His - will are definitely to  
happen. Just leave all your hard work into His hands  
and trust that He will work on you.*

*Thanks God, You always help me to finish this final  
project and this study with all your ways...*

## PREFACE

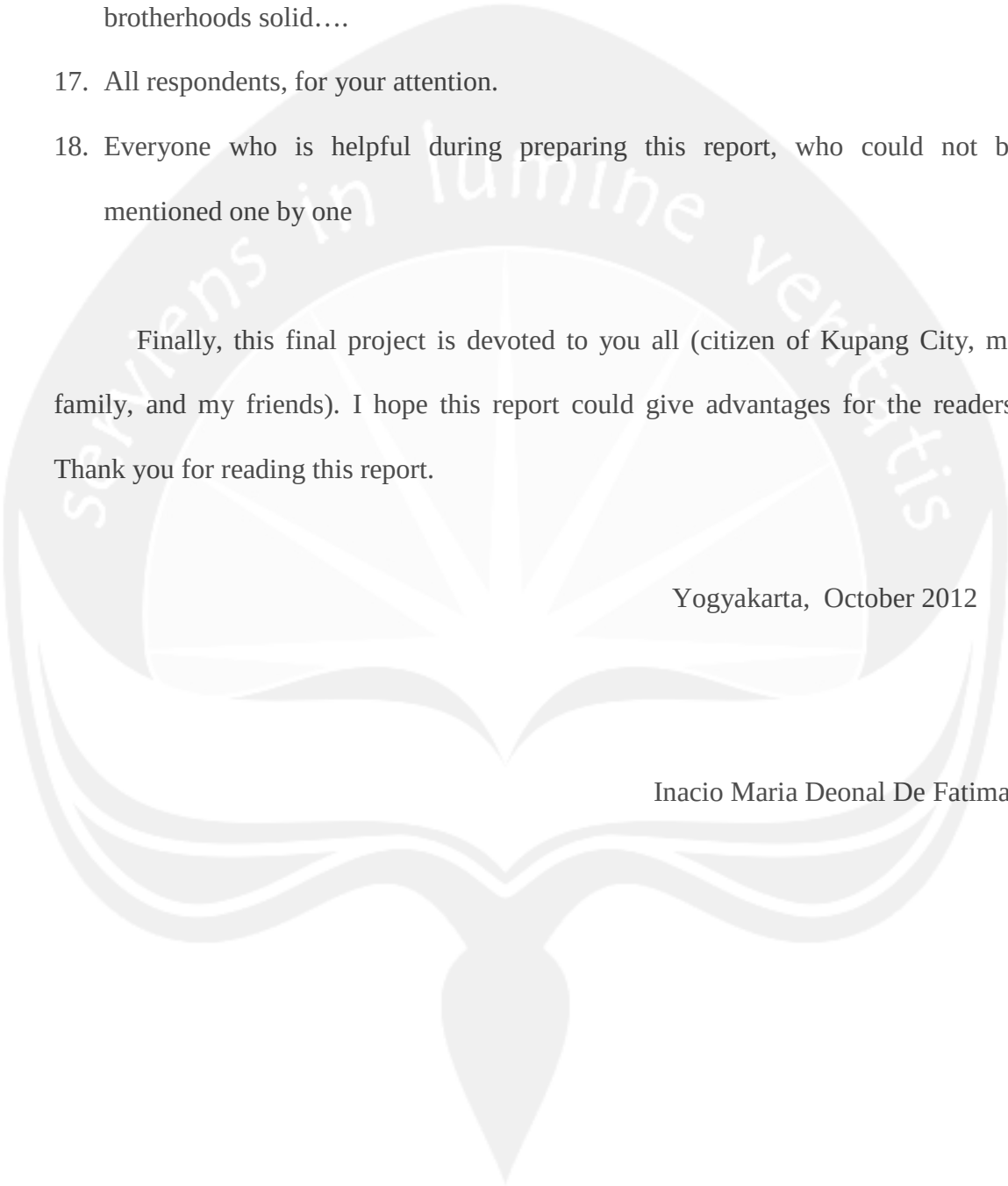
First and foremost, the author would like to say thanks to God for his blessing so that the writer could finish this on site practice report. This report was arranged as a requirement for obtaining Bachelor degree from University of Atma Jaya Yogyakarta.

The writer would like to say thank you for:

1. **Special thank you** my advisor also the 3<sup>rd</sup> Vice Dean of Engineering Faculty in the University of Atma Jaya Yogyakarta, Ms. Anastasia Yunika, ST, M.Eng., who advice me patiently, spare her time much to advice me, teach me much about systematical of scientific writing, sentences and grammar.
2. J. Januar Sudjati, S.T., M.T., as the Head of Civil Engineering Program in the University of Atma Jaya Yogyakarta.
3. Ir. Y. Lulie, MT, as the Coordinator of International Civil Engineering program in the University of Atma Jaya Yogyakarta.
4. All officers of The Department of Civil Engineering University of Atma Jaya Yogyakarta.
5. All officers of PDAM Kabupaten Kupang especially officers of technical division, Mr. Geon Gregorius as the head of this division, Mr. Munawir Kia as the Head of Network and Technical Plan Sub Division, Mr. Yan Yan Mulyana as the Head Transmission and Distribution Sub Division, Mr. Benyamin Bessie as the Head of Production Sub Division.

6. **Special thank you** for the Head of Water Source and Laboratory Sub Division, Mr. Samsul Bahri, whose accompnay me to go to each water sources, helping in collecting data, and many more.
7. For the government of Kupang City, Kantor perijinan.....
- 8.
9. Special thank you to my Dad, my Mom, Carla, Adi, and William who always support me in all respects. Thank you.... Thank you.... Thank you.... I love u all....
10. Mrs. Petronella Rissi Djari, for her helps, cares, and support in all respects for me. Thank you Mom....
11. Donna Bella Permata Rissi, as my girlfriend, for her helps, cares and support in all respects for me a long my study. Thank you honey.... Love you...
12. All my brothers and sisters for your supports.
13. To all my best friends Koherista G. Liufeto, Marcelinus Y. A. F. Akoli, Wenseslaus B. K. Atasoge, Paulus J. Banggung, Gusti Odja, Achel Medoh, and Randy Temu. Thank you all... Keep our brotherhoods solid....
14. To my best friends that I ever meet in Jogja, Ferdy Tjusanto, Christian G. De Fretes, Avelino Rainhard, Adrian Harlim, Devichy Wibowo, and Sabrina. (Guys, we still have the unfinished project in RW 08, we should spare our time to finish it, okay?)
15. All students of Civil Engineering International Department, University of Atma Jaya Yoygakarta students.



- 
16. Other friends that cannot be mentioned one by one. Thank you all... Keep our brotherhoods solid....
  17. All respondents, for your attention.
  18. Everyone who is helpful during preparing this report, who could not be mentioned one by one

Finally, this final project is devoted to you all (citizen of Kupang City, my family, and my friends). I hope this report could give advantages for the readers. Thank you for reading this report.

Yogyakarta, October 2012

Inacio Maria Deonal De Fatima

## TABLE OF CONTENT

|                                                                 |          |
|-----------------------------------------------------------------|----------|
| COVER PAGE.....                                                 | i        |
| APPROVAL PAGE .....                                             | ii       |
| ORIGINALITY STATEMENT PAGE .....                                | iv       |
| PREFACE .....                                                   | v        |
| TABLE OF CONTENT .....                                          | viii     |
| LIST OF TABLE .....                                             | x        |
| LIST OF FIGURE.....                                             | xi       |
| LIST OF APPENDICES .....                                        | xiv      |
| GLOSSARY.....                                                   | xv       |
| ABSTRACK .....                                                  | xvi      |
| <br><b>CHAPTER I – INTRODUCTION</b>                             |          |
| 1.1 Background .....                                            | 1        |
| 1.2 Problem Statement .....                                     | 2        |
| 1.3 Research’s Objective .....                                  | 3        |
| 1.4 Reseach’s Scope .....                                       | 4        |
| <br><b>CHAPTER II – LITERATURE REVIEW .....</b>                 | <b>5</b> |
| <br><b>CHAPTER III – RESEARCH OBJECT’S DESCRIPTION</b>          |          |
| 3.1 Brief history and development of PDAM Kupang district ..... | 18       |
| 3.2 Job description of PDAM Kupang district.....                | 19       |
| 3.3 Organizational structure .....                              | 20       |
| 3.4 Water supply system applied by PDAM Kabupaten Kupang .....  | 21       |
| 3.5 Service Area of PDAM Kabupaten Kupang .....                 | 37       |

## **CHAPTER IV – METHODOLOGY**

|                                        |    |
|----------------------------------------|----|
| 4.1 Research's Method .....            | 41 |
| 4.2 Technique of Data Collection ..... | 42 |
| 4.3 Data Sources .....                 | 43 |
| 4.4 Technique of Data Analysis .....   | 44 |

## **CHAPTER V – DATA ANALIYSIS**

|                                                                                         |    |
|-----------------------------------------------------------------------------------------|----|
| 5.1 Data Analysis .....                                                                 | 46 |
| 5.2 Respondents Profile .....                                                           | 68 |
| 5.3 Identify of the root cause of problems that faced by<br>PDAM Kabupaten Kupang ..... | 73 |
| 5.4 Comparison study with municipal waterworks of Timor Leste .....                     | 76 |

## **CHAPTER V – CONCLUSION AND RECOMMENDATION**

|                          |    |
|--------------------------|----|
| 6.1 Conclusion .....     | 77 |
| 6.2 Recommendation ..... | 78 |

|                         |    |
|-------------------------|----|
| <b>REFERENCES</b> ..... | 79 |
|-------------------------|----|

## LIST OF TABLES

|                                                                                                        |    |
|--------------------------------------------------------------------------------------------------------|----|
| Table 2.1 – Drinking Water Requirement .....                                                           | 5  |
| Table 2.2 – Fresh Water Requirement .....                                                              | 7  |
| Table 2.3 – Explanation of Five Aspects of Water Supply System In Term of<br>Water Sources Types ..... | 11 |
| Table 3.1 – Data of Water Sources of PDAM Kabupaten Kupang .....                                       | 22 |
| Table 3.2 – System of Spring Water Sources .....                                                       | 25 |
| Table 3.3 – System of Drilling Well Water Sources .....                                                | 33 |
| Table 3.4 – Covered Area and Critical Area in term of Water Supply in Each<br>Service Zone .....       | 38 |
| Table 3.5 – Problems in Service Zones of PDAM Kabupaten Kupang .....                                   | 39 |
| Table 3.6 – Correlation of water sources with its service zone, and Production<br>discharge .....      | 40 |
| Table 4.1 – Table of data analysis .....                                                               | 44 |
| Table 5.1 – Result of Bacteriological Parameter Test .....                                             | 50 |
| Table 5.2 – Result of Physical Parameter Test .....                                                    | 52 |
| Table 5.3 – Result of Chemical Parameter Test .....                                                    | 53 |
| Table 5.4 – Total Discharge of Every Water Source .....                                                | 55 |
| Table 5.5 – Total Water that may be Received by Each Person/Day (ltr/day) .....                        | 58 |
| Table 5.6 – Comparison of Real Situation (Fact) and Referred Standard .....                            | 70 |

## LIST OF FIGURES

|                                                                                    |    |
|------------------------------------------------------------------------------------|----|
| Figure 3.1 – Organizational Chart of PDAM Kupang district .....                    | 20 |
| Figure 3.2 – Sequence water supply system applied by PDAM Kupang<br>district ..... | 21 |
| Figure 3.3 – Sequences of Water Supply System at Other Post .....                  | 21 |
| Figure 3.4 – Measurements Way to Get Water Source Discharge for Spring.....        | 25 |
| Figure 3.5 – System types 1 .....                                                  | 26 |
| Figure 3.6 – Dendeng Spring .....                                                  | 27 |
| Figure 3.7 – Haukolo Spring .....                                                  | 27 |
| Figure 3.8 – Oele’u Spring .....                                                   | 27 |
| Figure 3.9 – Air sagu 1 & 2 Spring .....                                           | 27 |
| Figure 3.10 – Amnesi Spring .....                                                  | 28 |
| Figure 3.11 – System Types 2 .....                                                 | 28 |
| Figure 3.12 – Oepura Spring .....                                                  | 28 |
| Figure 3.13 – System Types 3 .....                                                 | 29 |
| Figure 3.14 – Oenesu Spring .....                                                  | 29 |
| Figure 3.15 – Bonem Spring .....                                                   | 29 |
| Figure 3.16 – System Types 4 .....                                                 | 30 |
| Figure 3.17 – Baumata Spring .....                                                 | 30 |
| Figure 3.18 – Kolhua Spring .....                                                  | 30 |
| Figure 3.19 – System Types 5 .....                                                 | 31 |

|                                                                                              |    |
|----------------------------------------------------------------------------------------------|----|
| Figure 3.20 – Tarus Spring .....                                                             | 31 |
| Figure 3.21 – Measurements way to get water source discharge for drilling well ..            | 32 |
| Figure 3.22 – System Types 1 .....                                                           | 33 |
| Figure 3.23 – Alak Drilling Well .....                                                       | 34 |
| Figure 3.24 – Penfui Timur Drilling Well .....                                               | 34 |
| Figure 3.25 – System Type 2 .....                                                            | 35 |
| Figure 3.26 – Sikumana Drilling Well .....                                                   | 35 |
| Figure 3.27 – Polla Drilling Well .....                                                      | 35 |
| Figure 3.28 – System Type 3 .....                                                            | 36 |
| Figure 3.29 – Bolok Drilling Well .....                                                      | 36 |
| Figure 3.30 – System Types 4 .....                                                           | 36 |
| Figure 3.31 – Namosain Drilling Well .....                                                   | 37 |
| Figure 4.1 – Flowchart of Research Method .....                                              | 41 |
| Figure 5.1 – Frequency Chart of Water Quality in Term of Turbidity, Odor,<br>and Taste ..... | 48 |
| Figure 5.2 – Frequency Chart of Number of People in A Household .....                        | 59 |
| Figure 5.3 – Frequency Chart of Respondent Needs of Water Amount .....                       | 59 |
| Figure 5.4 – Percentage Chart of Sufficiency Level of Distributed Water .....                | 60 |
| Figure 5.5 – Percentage Chart of Distribution Duration .....                                 | 63 |
| Figure 5.6 – Percentage Chart of Distribution Intensity .....                                | 64 |
| Figure 5.7 – Percentage Chart of Distribution Time .....                                     | 64 |
| Figure 5.8 – Percentage Chart of Strength of Water Flow .....                                | 64 |

|                                                                                            |    |
|--------------------------------------------------------------------------------------------|----|
| Figure 5.9 – Percentage Chart of New Connection Request .....                              | 65 |
| Figure 5.10 – Frequency Chart of Difficultness Level of Requesting New<br>Connection ..... | 65 |
| Figure 5.11 – Percentage Chart of Main Pipe Distance to Customers Household ..             | 66 |
| Figure 5.12 – Frequency Chart of PDAM Responds to New Pipeline Connection<br>Request ..... | 66 |
| Figure 5.13 – Frequency chart of customers income .....                                    | 67 |
| Figure 5.14 – Frequency Chart of Customers Expencc On Water .....                          | 68 |
| Figure 5.15 – Percentage Chart of Water Price .....                                        | 68 |
| Figure 5.16 – Percentage of Respondent Gender .....                                        | 69 |
| Figure 5.17 – Frequency Chart of Respondents Age .....                                     | 69 |
| Figure 5.18 – Frequency chart of respondents occupations .....                             | 70 |
| Figure 5.19 – Identify Way of Root Cause Problem .....                                     | 74 |

## **LIST OF APPENDICES**

APPENDIX 1 – Permission Letters for Conducting Research

APPENDIX 2 – Letters of Completion Research

APPENDIX 3 – Water Sources Data

APPENDIX 4 – Layout of PDAM Kabupaten Kupang Service Area

APPENDIX 5 – Schedule of distribution time

APPENDIX 6 – Questionnaire and Interview Guideline

APPENDIX 7 – Letter of Interviewed Informan

APPENDIX 8 – Result of Laboratory Test

APPENDIX 9 – Problems That Faced by PDAM Kabupaten Kupang



## LIST OF GLOSSARY



|                                                     |                                                 |
|-----------------------------------------------------|-------------------------------------------------|
| <b>Badan Lingkungan Hidup Daerah</b>                | - Regional Enviromental Agency                  |
| <b>Badan Pengelolaan Air Minum (BPAM)</b>           | - Agency of water management                    |
| <b>PDAM Kabupaten Kupang</b>                        | - Municipal Waterworks of Kupang District       |
| <b>Perusahaan Listrik Negara (PLN)</b>              | - Institution of Electricity Power              |
| <b>Unit Pelayanan Teknis Laboratorium Kesehatan</b> | - Technical Services Unit of Medical Laboratory |

## ABSTRACT

### **STUDY OF WATER SUPPLY SYSTEM IN PDAM KABUPATEN**

**KUPANG**, Inacio Maria Deonal De Fatima, Student Number 08 13 13118, 2008, Specialization Field of Water Engineering, Department of Civil Engineering International, Faculty of Engineering, University of Atma Jaya Yogyakarta.

City and district of Kupang are areas that face problem of imbalance demand – supply domestic water. Customers of PDAM complain about its water quality, quantity, continuity, and PDAM's management system. Based on this issue, this research will (1) Identify the water – supply system that applied by PDAM Kabupaten Kupang both in term of its components (elements) and way of its system working; (2) Identify the fitness of water – supply system that applied by PDAM Kabupaten Kupang to the referred standard of water quality, quantity, continuity, accessibility and affordability; (3) Identify the root problem of water – supply system of PDAM Kabupaten Kupang; (4) Provide recommendations of solution to overcome the problem of PDAM Kabupaten Kupang.

The data analysis of obtained data (primary and secondary) will be conducted in simple descriptive analysis to describe real situation of water supply system of PDAM Kabupaten Kupang. It is about comparing the real situation to referred standard applied by PDAM Kabupaten Kupang. Questionnaire result will support this analysis. Causal relationship analysis is applied to the problems in PDAM Kabupaten Kupang to identify the root cause of the problem.

After conducting the research, the results are as follows: (1) Water supply system applied by PDAM Kabupaten Kupang is similar to common water supply system, except there is no treatment facilities. Each water source have their own system and service zone. There is no point to collect water from all water sources. There are two types of water sources i.e. spring and drilling well; (2) Water supply system that applied by PDAM Kabupaten Kupang partially meets the parameters of referred standar i.e. quality, quantity, continuity, and PDAM managements and fully meets the accessibility and affordability; (3) The root cause of PDAM Kabupaten Kupang problem is its management both technical and non technical aspects. (4) The recommendation that can be drawn to overcome the problem in PDAM Kabupaten Kupang is PDAM should improve its management both technical and non technical management.

**Keywords:** water supply system, parameters of water supply system, quality, quantity, continuity, accessibility, affordability and management.