Reorientation of Clean Water Supply Services in Indonesia

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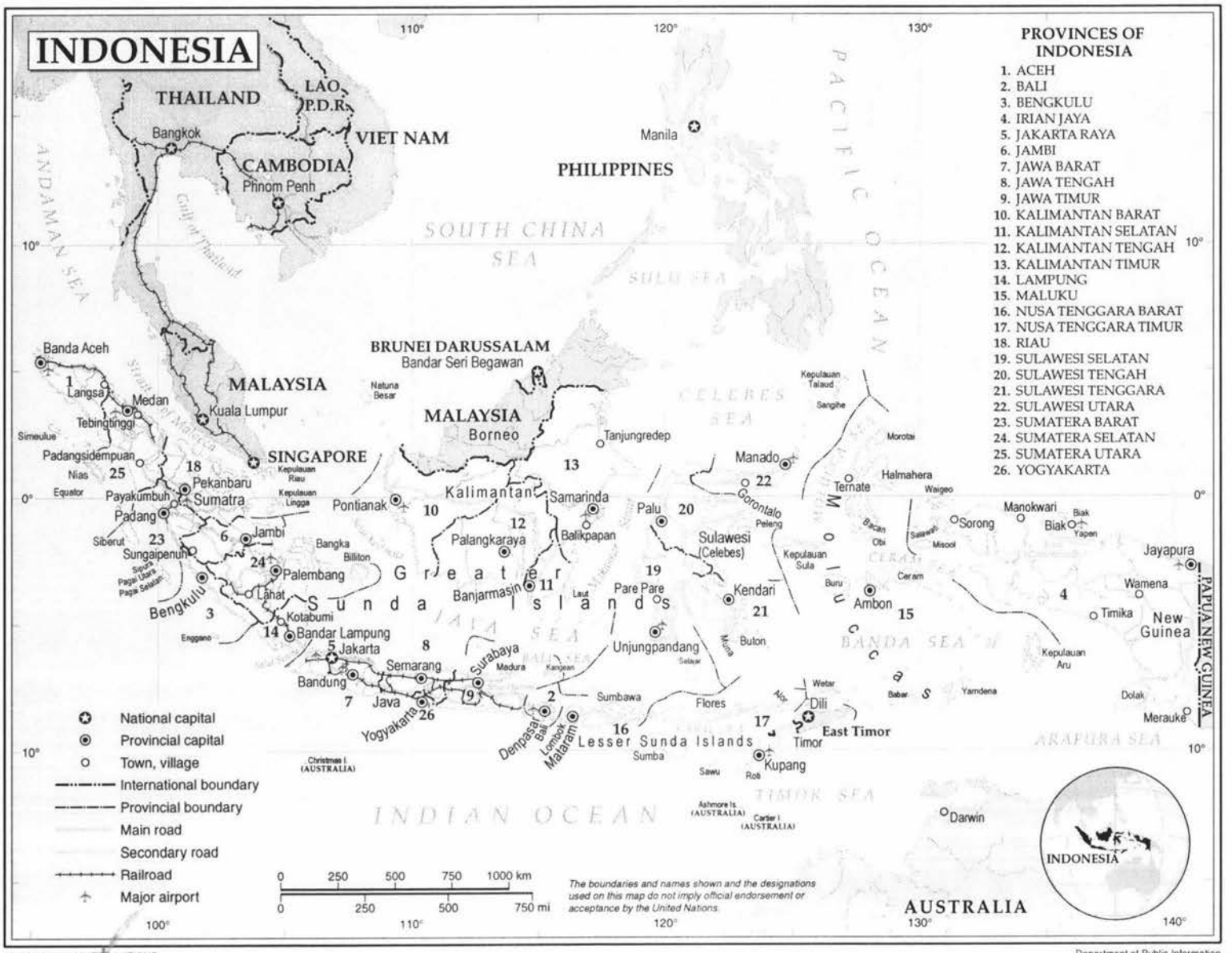

Map No. 4110 UNITED NATIONS
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PREFACE AND ACKNOWLEDGEMENTS

This thesis results from my best efforts during the difficult situation which was happening just before the referendum, and during the systematic terror campaign in order to stop the people of East Timor from gaining their independence. How I have enjoyed my two years of wonderful support from the people of New Zealand who have also given my family a safe haven in times of trouble.

Many people have helped with this research. First thanks goes to my parents for their constant love, support and encouragement. I am grateful to my supervisor, Dr. Donovan Storey who has displayed a considerable degree of patience throughout this time. I also owe considerable thanks to two persons who offered their help and inspiration, namely, Dr. Barbara Nowak and Prof. John Overton.

During data collection, I was given unconditional access by Prof. Benny Chatib of Perpamsi, as well as from Budhi Sutjahjo of Waseco and Rudi William of Infratama. I also discussed the most up to date issues concerning the development of water supply with Dr. Maxdonny Kamil of Bandung Institute of Technology and Sukarma of The World Bank, Jakarta. I collected some information from the United Nations' Information Centre in Jakarta. During my fieldwork in PDAM Kabupaten Bandung, I received great assistance from my colleague, Joedi Herdianto. In proof-reading, I owe Helen Scott, James Elise and Rahlene Thomas who have contributed a great deal, although they were extremely busy.

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ABSTRACT

There have been major problems with the sustainability of water supply development and provision in urban areas of Indonesia, carried out by PDAMs under local government control. Two critical issues that are being faced by PDAMs are: (1) the capacity of PDAMs to increase the current coverage of the provision, which currently is only 40% of urban population and (2) the capability of PDAMs to carry on their developmental mission in providing clean water in urban areas.

The main objective of this thesis is to examine the most influential factors behind the failure of water supply development in urban areas of Indonesia. The research findings in this thesis propose the necessary reformation to be taken in order to give the right orientation to water supply development. Based on a review of the literature, field work, discussions, correspondence and experiences of the author. I argue that the most influential factors concerning sustainable development of urban water supply of Indonesia are related to: population, urbanisation, income, human resources, supervision, private sector participation and central government control.

This thesis has drawn the conclusion that the development of water supply in urban areas of Indonesia in the twenty-first century will depend on the success of the government to provide solutions to the following issues: population growth, urbanisation, household and labour income, human resources and a lack of supervision. The establishment of day-to-day supervision and the introduction of a Water Consumers Organisation (WCO) will provide better control over the PDAMs. Development of human resources conducive to the needs of PDAMs is seen as the firmest foundation towards the sustainable provision of clean water in the urban sector of Indonesia.

GLOSSARY OF TERMS & ABBREVIATIONS

ADB	Asian Development Bank
AIDAB	Australian International Development Assistance Bureau
APBD	Anggaran Pendapatan dan Belanja Daerah (Local Government Budget)
APBN	Anggaran Pendapatan dan Belanja Negara (National Government Budget)
AusAID	Australian Agency for International Development
BAPPEDA	Badan Perencanaan Pembangunan Daerah (Regional Development Planning Board)
BAPPENAS	Badan Perencanaan Pembangunan National (National Development Planning Board)
BPAM	Badan Pengelola Air Minum (Interim water enterprise)
BPS	Biro Pusat Statistik (Statistical Bureau)
CPI	Consumer Price Index
DEPDAGRI	Departemen Dalam Negeri (Ministry of Home Affairs = MoHA)
Depkes	Departemen Kesehatan (Ministry of Health)
ETWSSP	East Timor Water Supply and Sanitation Project
GDP	Gross Domestic Product
GNP	Gross National Product
GOA	Government of Australia
GOI	Government of Indonesia
IPTN	Industry Pesawat Terbang Nurtanio
IUIDP	Integrated Urban Infrastructure Development Program
Kabupaten	District level, a subdivision of province
Komda	Komisi Daerah (Commission Area)
KORWIL	Wilayah Koordinasi (Area of Co-ordination)
Lcd	Litre per capita per day
LDRs	Less Developed Regions
Lps	Litres per second

MDRs	More Developed Regions
MoHA	Ministry of Home Affairs
MOU	Memorandum Of Understanding
MPW	Ministry of Public Works
NGO	Non Government Organisation
O&M	Operation and Maintenance
OECD	Organisation for Economic Co-operation and Development
PDAM	Perusahaan Daerah Air Minum (Local Water Supply Enterprise), PDAMs is adopted to indicate more than one PDAM.
PERPAMSI	Perusahaan Air Minum Seluruh Indonesia (Indonesian Water Supply Association)
PID	Project Implementation Document
PSP	Private Sector Participation
UFW	Unaccounted For Water
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Programme
UNIC	United Nations Information Centre
Unsfir	United Nations Support for Indonesia Recovery
USAID	United States Agency for International Development
WB	World Bank
WCO	Water Consumers Organisation
WTP	Water Treatment Plant

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Chapter 1

THE THESIS IN OUTINE

1.1 Introduction

What is currently happening in the development of water supply in the urban areas of Indonesia? Is urban water supply, under the management of local water supply enterprises, the so called 'Perusahaan Daerah Air Minum' (PDAM) in Indonesia, developing the right orientation? What reformations are required by PDAMs in order to meet the challenges of the 21st century?

These are amongst the most urgent questions to be asked. At present only 40 percent of the Indonesian urban population is being served by PDAMs, whereas 40 percent of the water is believed to be unaccounted for. Yet, there is a remarkable lack of certainty about the answers. But the main concern is to understand what has gone wrong, and what actions are required to correct what has happened in the past, and how this information can better inform urban water provision in the future.

This thesis presents a brief overview, and interpretation, of the present situation. This perspective will enable us to draw critical conclusions about what is happening and what recommendations are required in order to bring sustainable solutions to the provision and development of clean water in Indonesia. This research is mainly addressed to the government and PDAMs.

The first chapter of this thesis outlines the following chapters. It sketches the way the research was carried out, the objectives, methodology, limitations of the study and ethical aspects of the research.

Chapter Two sketches the implications of population growth and urbanisation in Third World Countries. It points out that the population growth of Third World countries, or less developed countries, tends to be much higher than that of the more developed countries. It discusses arguments about the relation between population growth, poverty, natural resources exploitation and environmental pressures. This chapter also outlines the capacity of current infrastructure provision. Finally I outline the potential but also the problems of moving water supply toward market based solutions.

Chapter Three discusses, particularly, the issue of population, urbanisation and problems of development in Indonesia. It highlights the rapid growth of population from 119 million in 1971 to 204 million in 2004, which gives an annual increment of approximately over 3 million. This chapter also reveals that the population density of the main cities are at alarming levels. Java island which is only 6.58 percent of the country's land mass, is settled by approximately 58 percent of the Indonesian population. In 1998, population density for Indonesia had reached 938 people/km2. The most populated urban area of Indonesia is in the capital, Jakarta, where the density is approximately 9700 per km^2.

Besides the population growth of each province from 1971 to 1995, this chapter also discusses the size of households in the main islands of Indonesia. The size of individual households has decreased from about 4.36 in 1994 to 4.14 in 1998. Yet, this thesis will adopt a 5 per household figure as the basis for estimating numbers of new connections required in Indonesia.

The second half of Chapter Three focuses on urbanisation, where the majority of people's motivations to move is related to employment reasons. Meanwhile the annual urban population increment has been continuously increasing. In 1980 it was 1.2 million, but by 1995 this figure increased to almost 3 million. Surprisingly, this figure is almost equal to the entire annual population increment of Indonesia. The last part of Chapter Three discusses poverty. It shows that the number of

people living in poverty officially decreased from 1976 to 1996, but this trend no longer continues but has reversed, the main cause being economic turmoil. Public servants and private labourers are some of the most deprived employment groups where basic salaries have not been able to meet basic needs.

Chapter Four explains the organisation of PDAMs and the number of customers they serve. It begins with a brief summary of the PDAMs, including categories, number of connections by categories and coverage. It shows that almost 73 percent of the PDAMs are categorised as small PDAMs (number of connections less than 10,000). The second half of this chapter is concerned with the high level of Unaccounted For Water (UFW) and low levels of coverage. These indicators should be of the utmost concern to PDAMs in Indonesia.

At the end of the chapter, it is argued that the ratio of connections per staff working for PDAMs is considerably low, and it is not surprising that the worst ratios found lie within the provinces located farthest from the centre of development. More resources are placed into developed urban areas, instead of into remote areas. There is a suspicion that limited human resources, low salary of PDAMs staff and the heavy control by central government have caused PDAMs to lose their initiative to develop and serve the peoples most in need.

Chapter Five attempts to examine, in detail, what is precisely happening with PDAMs and will try to propose solutions to these problems. The beginning of the chapter argues how the macro-economy influences the development of water supply in Indonesia. For instance, depreciation of Rupiah (Indonesian currency) against the US currency and inflation, have heavily influenced efforts to develop the provision of clean water. Yet, one of the most credible political economists of Econit views the year 2000 as the 'Rebirth of the Indonesian Economy' (Econit Economic Outlook, 1999 in Kompas 16 Dec. 1999). Hence, from the angle of macro-economics, there is a seed of hope for the rebirth of clean water provision in Indonesia. The second part of the chapter points out that there are some more

influential factors hindering PDAMs efforts, they are: the quality and the capability of human resources, differences in salary, supervision and private sector participation.

Chapter Five also argues that the lack of supervision and the absence of control by the beneficiaries (who are the customers) has lead to frequent mismanagement. The heavy control, and central mandatory, of central government over PDAMs has disadvantaged their efforts. There is a need for government to introduce Private Sector Participation (PSP) on a day-to-day basis in PDAMs management structure. This should not be translated into private sector divestiture, but a gradual handing over of management of PDAMs to the private sector. The establishment of a Water Consumer Organisation is seen as a critical element that has been absent since PDAMs have existed.

Chapter Six summaries the discussions of the previous chapters. It concludes that there are influential factors behind the tardiness of clean water provision to urban areas of Indonesia. The last part of Chapter Six outlines the recommendations needed in order to reform, and bring about, development to the water supply sector. It includes aspects such as population growth, rapid urbanisation, households income, human resources, supervision, private sector participation, environmental concerns, and centralised development approach. Development will only take place if the government, or the PDAMs, attempt to reform their approach and change their attitudes towards water provision. I outline what should be the basis for a sustainable water supply.

It is also noted in this chapter that the conclusions and recommendations drawn from this thesis are only applicable to the cultural settings and political environment in Indonesia. My findings may not have generalising power, therefore, the lessons drawn from this thesis should be applied to other settings with care.

1.2 Research Outline

This research project proposes to investigate the current lack of clean water supply in urban areas of Indonesia. This thesis examines why provision of clean water is so low and how local water supply enterprises may reform their strategies in order to meet increasing need.

The institutional body, working on the development of clean water supply in Indonesia is the Local Clean Water Supply Authority, called PDAM (Perusahaan Daerah Air Minum). The association of PDAMs in Indonesia is called Perpamsi (Indonesian Water Supply Association, IWSA). These are the two institutions which have access to the data for clean water provision in urban areas of Indonesia. Perpamsi collects the essential performance indicators of approximately 300 local water supply enterprises in Indonesia, covering western, middle and eastern parts of Indonesia.

A detailed survey was conducted at PDAM Kabupaten Bandung (co-ordinating 17 subsystems of water supply). This survey sought to obtain a clearer picture of the situation of the PDAM both financially and technically, i.e, how can they could increase the quantity, quality and continuity of their service?

This thesis also relied on literature, reports, correspondence and discussions with related institutions, such as The World Bank and Perpamsi. The author's personal experience in providing consultancy work, enriched the effort of this thesis to reach its conclusions and recommendations.

1. 3 Objectives

The specific objective of this research is 'to determine the factors which can be reformed in order to increase access, by all social classes, to clean water supply in urban areas of Indonesia'.

1. 4 Limits of the Study

This study was performed in Indonesia over a 6-week period, with most of the time spent, by the author, researching data on urban water supply. In collecting the data, the author visited the World Bank in Jakarta, the United Nations Information Centre, Perpamsi, and two consultant offices located in Jakarta. The data collection process was also conducted in PDAM Kabupaten Bandung. The author mainly concentrated on the development, planning and design, public relations and production unit sections of the PDAM.

The data collected, during field work, is the only data provided by the related institutions. However, it is important for the reader to approach the data with care. Reliability and accuracy of data in Indonesia is questionable, as well as the method in obtaining it, procedure of collecting, sorting, compiling and interpretation.

Finally, this thesis limits the study of the water supply to urban areas, where the institutions responsible for providing the service are the PDAMs. There are about 300 PDAMs in Indonesia, and most of the performance data is collected by Perpamsi. Rural water supply is not part of this research, however, a small proportion of the PDAMs service is also allocated to rural areas. This is unavoidable, particularly for PDAMs who rely on water resources located in rural areas. Health aspects and gender issues are not specifically examined in this thesis, but are briefly discussed in the literature study.

1. 5 Ethical Standards

The procedures applied in this research comply with Massey University ethical standards, where obtaining consent from the data provider is obligatory. For example, three months before the fieldwork, the researcher established contact with Perpamsi in Jakarta. Perpamsi officially appointed an engineer, as a contact

person, for this research project. Through Perpamsi, the researcher asked for a reference letter giving permission to visit two local water authorities (PDAM). Both Perpamsi and the directors of PDAM were informed of all aspects of this research project, including an information sheet and a consent form that required their signature. All procedures in this research were accepted by the Massey University Human Ethics Committee and were considered to meet their required standards.