Chapter One

The Challenge to Meet Public Value

> Water is needed in all aspects of life. The general objective is to make certain that adequate supplies of water of good quality are maintained for the entire population of this planet, while preserving the hydrological, biological and chemical functions of ecosystems, adapting human activities within the capacity limits of nature and combating vectors of water-related diseases. Innovative technologies, including the improvement of indigenous technologies, are needed to fully utilize limited water resources and to safeguard those resources against pollution.
>
> Agenda 21 Chapter 18 Section 2 (2004)

I. 1. Introduction: Rationale for the Water Supply Case Study

The purpose of this study is to evaluate problems of water supply service performance in an Indonesian water supply enterprise. The enterprise has social and environmental justice implications. The thesis develops a systemic outcome performance measurement model. This requires the investigation to have several interrelated elements. Therefore the thesis will consider the reasons for developing outcome performance measurements of a water supply service; identify some appropriate measurements for recognizing and assessing performance problems in the provision of a water supply; clarify interrelationships across service performance problems; and evaluate the achievement of social and environmental goals in the provisions of a particular Indonesian water supply enterprise. The research uses a combination of qualitative and quantitative methods which are i) a case study involving individual interviews with position-holders, document analysis, direct

observation, and documentation; ii) an interview survey of water users or clients, and iii) focus group discussions.

Performance measurement of an institution providing a service is of limited use in enhancing its accountability and building its capacity unless the people who are at the receiving end of the services are part of the process that makes the measures and ensures that the public interests are met. So this thesis makes the argument that performance measurement must include clients in the accountability processes from the outset. The approach links the policies of social and environmental justice and management strategies to achieve this.

Constitutionally the Indonesian political system defines water as a public good. It is specifically mentioned in the 1945 Indonesian Constitution section 33-3 (UUD-45, 2001)[1] and Water Resource Act Nr 7/2004 section 6-1 (Law-7, 2004) that water and earth, and natural resources inside them are controlled by the state and to be used fully for citizen welfare. Nevertheless, water that is supplied to customers through pipe connections by a water supply enterprise cannot be considered as an entirely public good. Since there is a price for customers, the enterprise, as with a private good, excludes non-customers its service. The water supply can be considered as a 'toll good' that comprises an 'excludability' characteristic from the sphere of private good and a 'jointness' characteristic from that of public good (Lane, 1993, p. 22)[2]. Even so, the characteristic of water as a private good should not completely replace the water function as a public good. The provision of water as a public good is essential for the society and the environment.

[1] The 1945 Indonesian Constitution has been amended three times, in 1999, 2000, and 2001, by the MPR (Majelis Permusyawaratan Rakyat or the People Consultative Congress).
[2] Other authors like Buchanan (1968) consider it as an 'impure' public good.

The provision of water supplies in rural and urban areas in Indonesia is made by local drinking water supply enterprises (PDAM[3]). There are about 280 PDAM, most owned by local governments and a minority by provincial governments (PERPAMSI, 2000, p. 389)[4]. The PDAM used for this case study is a water supply enterprise in Cinusa[5], a city with a population of about one million in Java, Indonesia. The PDAM is owned by the Cinusa city government and will be referred to in this thesis as the Cinusa Public Water Supply Enterprise (CPWSE).

In Indonesia, only 33% (28.7/87 million) of urban inhabitants and only 8 % of the rural population are served by PDAMs (Elvas & Baietti, 2001, p. 1). These enterprises only serve those who can pay for the service. People who have not been served or do not have access to clean water from their local PDAM look for other alternative water sources such as individual shallow wells, deep bored wells, rivers or they buy from street vendors. Water from these alternative sources is not well distributed and protected so it can be contaminated and it does not meet the standard for drinking and clean water.

The Applied Technology and Research Agency (BPPT[6]) as the central government research institution stated that in 1998 100 percent of water samples from 100 shallow wells in and around the capital, in Jakarta, Bogor, Tangerang and Bekasi were contaminated with e-coli bacteria from human faeces, organic chemical substances including ammonia and nitrates, heavy metals including cadmium and mercury, and detergents that are dangerous for the human body (Soekirno & Suseno, 1999, p. 1).[7] In the United Nations Agenda 21 the consumption of contaminated water

[3] Perusahaan Daerah Air Minum Indonesia
[4] Persatuan Perusahaan Daerah Air Minum Indonesia or the PDAM professional association
[5] Not its real name. The city has a population of about a million.
[6] Badan Pengkajian dan Penerapan Teknologi.
[7] This article is published online in the Intisari magazine, Indonesia at URL: http://www.indomedia.com/intisari/1999/Juni/th2003.htm

was reported to be the cause of 80 percent of all diseases and over one third of deaths in developing countries. As a response to this situation hundreds of millions of the poor[8] across the world have been served with water and sanitation services from the early 1980s (UN, 2004, Chapter 18 Section 47). But water users are still at risk of water borne diseases because of contaminated and polluted water.

The prevalence of buying water from vendors is also indicative of the limited access to piped water. Water vendors often raise their water price by 10 times (Bandung slums) or up to 60 times (Jakarta Slums) the local water supply utility tariffs in poor areas (Evans, Jaganathan, & Kingdom, 2001, p. 4). Water users in the city areas who cannot afford to buy water from these vendors and so they often consume water from contaminated wells and rivers.

The Indonesian central government initiative in maintaining and improving the PDAM performance was previously through soft loans, with PDAMs borrowing at a low interest rate from the central government. This loan policy was overall not doing well. Based on data from the Ministry of Finance on 31/3/2000, a prediction of PDAMs' loans was Rp. 3.2 trillion, when their fixed total assets were Rp. 7.5 trillion. Of these loans Rp. 1.83 trillion, about 57%, were suspended with about 63% of the 412 loans from 221 PDAM accounts were in arrears. As a consequence, the Ministry of Finance had rescheduled PDAMs' loan repayment at a subsidized interest rate (between 9% and 11.5%) at maturities of 20 years with 5 years grace on principal repayment (Elvas & Baietti, 2001, p. 2).

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[8] Sachs (2005, p. 20) mentions three degrees of poverty: extreme/absolute, moderate and relative poverty. Relative poverty defined as 'a household income level below a given proportion of average national income' or below the average local income in this case is generally used to differentiate between the poor respondent (lower income household) and the rich respondent (higher income household). Extreme poverty is defined as 'households cannot meet basic needs for survival' including food, health care, safe drinking water and sanitation, education, rudimentary shelter, and clothes; whilst moderate poverty is categorized as 'conditions of life in which basic needs are met, but just barely'

The Central Government's capacity for distributing loans to the PDAMs has also decreased. The general director of urban and rural administration from the Indonesian Department of Resettlement and Regional Infrastructure mentions that investors were unenthusiastic about investing their money because of the Indonesian economic crisis in 1997. The water investment dramatically decreased from US$ 1.4 billion during the five year development period IV or Pelita IV[9] (in the 1984/1975 to 1988/1989 period) to only US$ 300 million during the 1996/1997 to 2000/2001 period (Sulistyowati, 2001, p. 1). This investment reduction is a consequence of the financial crisis in mid -1997 in Asian economies, including Indonesia, in which their local currencies were devaluated and many infrastructure projects were cancelled (Elvas & Baietti, 2001, p. 1).

By the Central Government's Inter-Governmental Fiscal Relations Act Nr 25/1999, more discretionary power for accessing a loan has been transferred to Local Governments. Previously loan approval had to come from the Central Government. Now a PDAM (with an approval from its Local Government and Assembly) can borrow money from the domestic private sector (Law-25, 1999, Section 12-1) , but approval from the Central Government is still needed for international loans (Law-25, 1999, Section 11-2). Nevertheless, attaining agreements from local and central politicians can be costly. In the end, the CPWSE will keep increasing its water bills and shifting all its lobbying and political costs to customers.

Another strategy in solving financial difficulties of public services is privatization. This approach is a current phenomenon in many countries across the world. Public enterprises have been privatized in more than 100 countries (Guislain, 1997, p. 1). In the 1990s, privatization in Australia alone raised over $ 95 billion

[9] Pelita V was between 1989/1990 and 1993/1994, Pelita VI between 1994/1995 and 1997/1998. The term 'Pelita' was not used by the Indonesian Government after the end of the Pelita VI, instead using the term PROPENAS (National Development Programs).

(Walker & Walker, 2000, p. 19). However, the local governments in Indonesian have been more reluctant to be involved in privatizing their PDAMs. By 2000 only 6 of the 280 PDAMs had been privatized through concession, joint venture or management assistance/contract (PERPAMSI, 2000, p. 389). In the opinion of the managing director of the CPWSE (interviewed on 25 March 2004), the lesson from the case of the privatization of a PDAM in Jakarta is that it only benefits the private companies involved, with the Cinusa local government and the CPWSE having refused a privatization proposal offered to them by an English private water company.

This case study investigates the possibilities of reducing cost inefficiency, which is considered to be a crucial strategy. PDAMs can choose and develop various strategies such as fund injections and privatization in their current or future situation, but they still need to cut their cost inefficiency. Reducing that will in turn improve the CPWSE's financial capacity, especially its investment capacity, which can then be used to improve its water service performances including in water quality, quantity, continuity, and pressure; to subsidize the water price for the poor; or to finance human resource programs such as more training for retained employees and an early retirement program for retrenched ones.

A strategy of covering cost inefficiency through a tariff escalation is often ethically unfair, especially for the poor. A change in pricing policies can hurt poorer customers proportionally more than the richer customers. Such an impact on the poor results from the enterprise's cost inefficiencies, ineffective regulatory compliance, inappropriate corporate goals and corrupt relationships with local politicians and bureaucrats. These corporate deficiencies can be effectively hidden by the CPWSE's ability to increase revenue simply by escalating its prices to consumers (which is also likely to provide for paying an increased dividend to its eager Local Government

owners). The negative impact on the poor, for whom there is no price subsidy, is substantial. Although the local government's extra dividend-revenue could be used to provide other government services for its poorer citizens which would not have been possible otherwise.

Furthermore, a low service performance of water supply can carry social and environmental implications. Customers and potential customers of PDAM who are not satisfied and have not been served can use alternative water such as well water. Uncontrollable groundwater consumption can drain the groundwater stock and endanger the water scarcity in the future. As Soekirno and Suseno (1999, pp. 1-3) mentions that over-exploitation of ground water by industries causes a declining level of groundwater. It can also cause subsidence of the surface. This has been reported across Jakarta, with 61 cm in the Senayan III area, South Jakarta; 45 cm in the Kebon Kacang area, Central Jakarta; 45 cm in Ancol, North Jakarta; and 45 cm in Pulogadung, East Jakarta. It has also caused intrusion of sea water into near-coastline areas. Formally registered data from PDAM Jakarta stated that there are 2,851 deep boreholes in the area it services, but some wells of industries and businesses may not be formally registered yet. This over-exploitation of ground water has caused intrusion of sea water into the central area of Jakarta (Soekirno & Suseno, 1999, p. 1-3).

PDAMs that carry policy mandates from governments and citizens are expected to provide a minimum water supply to their local society. A failure in accomplishing this task can carry implications as explained above. Ideally PDAMs' performances should be monitored and evaluated in term of social and environmental goals beside economic objectives, and their performance reported to citizens as a part of their accountability for their performance. A transparent outcome performance

measurement system, developed later in this study, would be a means to provide necessary information that could be used to evaluate the social equity and environmental justice of a PDAM's performance.

This outcome performance measurement system is promisingly workable under the new era of local government election (Law Nr 32/2004) in which Mayors are directly elected by citizens. As a result, Mayors have interests to prove their best performance and credibility to the citizens. It is also useful to win support from the citizens for the next election. Transparent information and accountability to citizens are a part of political interests for the head of local governments. This situation is different with the previous election system that local parliament members elect their mayors and can push Mayors to step down from their positions, even though the reasons are political. As a consequence, Mayor's accountability is focused on the parliament. Mayors serve the parliament members' interests which are sometimes conflicted with the interest of citizens. Under the new Local Government Law, local parliaments can not push Mayors to step down due to only political reasons as happened before. Only if mayors have been proved by the judicial processes of Supreme Court that they have committed with corruption, collusion and nepotism, they can be asked to step down from their positions (Law Nr 32/2004 section 29-4a).

Moreover, performance based budgeting system for governmental agencies in Indonesia have been started for being implemented. The Financial Ministerial Degree Nr 571/PMK.06/2004 gives instruction to all public agencies to shift their budgeting system from input orientation to output, outcome and impact performances. A performance measurement system is needed in this situation and to be practicable in practice.

I. 2. Statement of the Problem Investigated in this Water Supply Case Study

This study of performance measurement is important to assess (i) how water is valued by public enterprises, the governments and the society as the three governance sectors, and (ii) how they cope with the service performance problems of a water supply. In a democracy people (public service users) need to be treated as participants, not consumers in making development decisions about public service delivery, in order to ensure that the services meet the perceived needs of the people (McIntyre-Mills, 2003, p. 14). Public users of public goods as citizens need to be involved in the evaluation of public sector performance. This thesis is structured around the question of how efficient and effective (or inefficient and ineffective) the performance of a particular local public water supply enterprise (CPWSE) in accomplishing social and environmental goals has been in the circumstance of a powerless societal accountability with a relatively absence of citizen accountability.

The research questions are: (i) Why and how outcome performance measurements and indicators are developed?; (ii) What and how problems of service performance of water supply in the CPWSE are identified and evaluated?; (iii) How are the outcomes of the service performance problems in the CPWSE identified and evaluated?; and (iii) What are the outcomes of the service performance problems in the CPWSE to its society and environment?

The study is constructed in several steps for answering these questions: (i) an explanation of the need to develop outcome performance measurement (Chapter I); (ii) the development of outcome performance measurements and indicators (Chapter II) and the methods used for the measuring and evaluation process (Chapter III); (iii) the identification and evaluation of service performance problems and outcomes of water supply in the CPWSE (Chapters IV and V); and (iv) the conclusion and

recommendations for the improvement of the current performance measurement system (Chapter VI).

The study is intended to: (i) criticize the service performance problems of water supply by the CPWSE; (ii) evaluate the social and environmental goal achievements of the water supply service in terms of the expected outcome of water as a public good; and (iii) give recommendations for developing an outcome performance measurement system that can be used as a means of public accountability for results in the case of water supply service provision.

I. 3. A Nationalized Water Supply Enterprise within the Indonesian Political Context

Many governments across the world nationalized their industries during the 1945 to 1951 period for various reasons including a spirit of nationalism, a socialist ideology, economic development and centralized planning (Redwood, 1980, pp. 1-4; Turner & Hulme, 1997, pp. 177-9). Indonesia was among them. After independence, colonial enterprises were normally nationalized**.** As reported in its 2003 profile book, the CPWSE had been founded under the Water Supply (or Water Piping) Ordinance ('Waterleiding Verordening' in Dutch) on 31 March 1915 as a Dutch colonial enterprise to provide a water supply in the city of Cinusa. After Indonesia declared and finally achieved its independence the company's legal foundation was brought under Local Government Regulation Nr 38/1955 and became part of the Cinusa Local Government institution as its drinking water provider. By the City's Local Regulation Nr 11/1974, based on the National Law 5/65, on 18 December 1974 it became an autonomous managerial entity as a local public enterprise, but still owned and politically controlled by the City Local Government.

Public enterprises can be broadly defined as 'state-owned production units which sell their output and are thus directly involved in the market process' (Turner & Hulme, 1997pp. 175-6).[10] There are two dimensions in the meaning of 'public enterprise': 'public' and 'enterprise' (ASOSAI, 1989). On its enterprise dimension a public enterprise has a commercial mission while on its public dimension, it must conduct public missions including better living standards and a balanced distribution of wealth for its society (ASOSAI, 1989, p. 3).

The CPWSE is categorized as a public utility among public enterprise categories with at least two characteristics: natural monopoly and political sensitivity (Hughes, 2003)[11]. Monopoly is theoretically counted as the preferred alternative for managing an infrastructure business like the water service that needs a huge investment. Fixing pipe connections to households and a big investment in the pipe network system do not support a competitive environment for a new entrant in the water industry. Additionally, water price and public health concerns in clean and safe water business are politically sensitive (Hughes, 2003, p. 97-8). These two characteristics are often used as the reasons for governments maintaining their power in the arrangement of the water supply service.

The CPWSE was ranked in the highest position for its financial performance among PDAMs located in city areas in 2000 by the Development and Financial Controlling Agency (BPKP, 2002)[12]. As a profitable enterprise, the CPWSE has a capacity to carry out public missions of water supply service in relation to achievements of the social and environmental justice as stated in many documents

[10] Specific definitions have been given by several authors, such Hughes (2003, p. 97) who defined a public enterprise as 'one that sells goods and services to the public on a large scale, with the financial returns accruing in the first instance to the authority itself'.
[11] The other kinds of public enterprise are land transport and postal service, enterprise in competitive environments, and regulatory authorities (Hughes, 2003, pp. 97-9)
[12] Badan Pemeriksa Keuangan dan Pembangunan also evaluates operational and administrative performances of PDAMs.

including Agenda 21 (UN, 2004), the Indonesian Water Resource Act (Law-7, 2004), and the 'Triple bottom line' concept (Elkington, 1997).[13]

After the collapse of the New Order authoritarian government in Indonesia in 1998 and the implementation of decentralization regulations starting with the Local Government Act Nr 22/1999, a negative impact has been "decentralization of corruption, collusion and political violence that once belonged to the centralized regime of the New Order and is now molded in existing patrimonial patterns at the regional level" (Nordholt, 2003, p. 41). By the Law Nr 22/1999 section 46-3, a Mayor is to be elected by the members of the local Parliament (not directly by citizens), and must step down from the position, if the majority in the Parliament rejects the Mayoral annual financial report for a second time after an initially non-accepted report has been modified and resubmitted to the parliament (Law-22, 1999). This section places the Mayor's position under the Local Parliament's power. This political situation is potentially manipulated by political elites in which they can sell their votes over any decision that requires their approval, in a form of rent-seeking behavior (Tullock, 1989, p. 1). In this case, any such potential rent-seeking behavior of local politicians in relation to the CPWSE, for example over the utility requesting a tariff change would be costly, and cause inefficiency.

Conveniently, the Law 22/1999 has been replaced with Local Government Law Nr 32/2004. In the section 29-4a of this Law, Mayors are to be directly elected by citizens, and must step down before the end of their elected time period if they are proved to have committed forbidden activities, including corruption, collusion and nepotisms, by the judicial processes of the Supreme Court (Law-32, 2004). However, local direct elections based on this new Law have not been conducted yet, and any

[13] A 'Triple bottom line' requires every company to balance between economic, social and environmental goals, and to be accountable on consequences caused to these three aspects by company operations.

outcome must wait until this new legislation is implemented. Replacements of new Mayors/Heads of Regency and Governor will be starting from July 2005 after the expiry of the period of office under the previous legislation of elected positions in several locations. The political situation described in this case study was between 2000 and 2004, thus during the operation of the previous Law 22/1999.

I. 4. Significance and Challenges of Water as a Public Good and a Public Value for Social and Environmental Justice in Indonesia

A water supply service can be seen as a public or private good, but this thesis makes the argument that water is vital for society especially public health and so to ensure accountability it is important that water governance includes citizens' participation for social and environmental justice. Public goods are generally defined as goods and services that are provided by 'means of public policy' (Lane, 1993, p. 21), or 'collective political choice' (Stretton & Orchard, 1994, p. 54) rather than by means of an individual market mechanism in which private goods are usually provided.

A collective political process creates public goals and missions as the target achievements for public managers and enterprises in creating public value. Public value is theoretically defined in term of program evaluation and cost-effectiveness analysis in which collective decision making process results collectively define objectives (Moore, 1995, p. 36)[14]. As Drucker mentions, delivering public services

[14] Another way to define public value is based on individual wants regardless collective decision making preference. It is based on cost benefit analysis in the economics welfare concept (Moore, 1995, p. 36).

and goods is not the only target, but improving human beings' condition is the most important thing in non-profit institutions (Drucker, 1999, p. 40).[15]

However, expecting that the government and its counterpart public enterprise create public values and conducts a good governance practice efficiently and effectively is not entirely persuasive. They are not always free from inefficient practices and misconducts. Problems in a collectively political decision about public good are a probable cause of inefficiency for several reasons including difficulties in predicting the supply of public good that can be politicized, and the potential relevance of free rider behavior in which people take the benefits of the public good but do not want share the costs involved (Clarke, 1980, p. 46), such as by paying taxes. So, evaluating and monitoring the government and public enterprise's work for accountability is obligatory.

Beside the problem of the political elites as explained above, water arrangements can also have some difficulties. The nature of a public good is that people can take benefit from it whether they do or do not join in the collective action (Schmidtz, 1991, p. 1). Lane (1993, pp. 21-2) mentions two characteristics of a public good: jointness and non-excludability, in opposition to a private good with non-jointness and excludability characteristics[16]. However, a purely public good with those two characteristics is almost impossible in reality. Even, pure public goods such as taxation and national security are no warranty for their provision equally to all members of society (Buchanan, 1968, p. 49-50).

[15] Drucker's thoughts such as in his earlier classical book about 'managing for results' (Drucker, 1964) are being criticized by Flood and Romm for being too focused on management and not on doing the right thing.

[16] Lane (1993) mentions four kinds of goods with their characteristics: Public good (jointness and non-excludability characteristics); Common good (rivalry and non-excludability characteristics), Toll good (jointness and excludability characteristics); and Private good (rivalry and excludability characteristics).

The jointness characteristic of public good can be seen as an alternative choice for non-customers of a water supply to take free water from alternative resources including wells and rivers. By the Indonesian Water Resource Act Nr 7/2004 permission from the government is not needed by water users in consuming groundwater as long as the water is used for a household's daily life (Law-7, 2004, Section 8-1).[17] If the groundwater is used by groups of people for commercial and industrial activities which need access to maximal supply groundwater, the government's permission is obligatory; and they must pay monthly groundwater fees (Law-7, 2004, Section 8-2b).

However, there are difficulties in monitoring groundwater extraction by commercial and industrial activities; and it is largely dependent on water user willingness in reporting their groundwater-taking activities (wells) to the government. Wells inside buildings or houses are hardly detected by the government officials unless a regular inspection of community households and buildings is conducted. This is, of course, a costly and time consuming activity. The other hindrance is that responsibilities in monitoring and collecting levies of groundwater are held by the provincial, not the local, government. Limited personnel of the provincial government for monitoring water underground taking activities combined with large numbers of local districts and regencies in this province can prevent this task from being accomplished effectively.

This situation of largely uncontrolled groundwater availability combined with a low service performance of the water supply forces water users to use alternative water resources, such as taking it from wells or rivers, or buying it from water vendors. Uncontrollable water takings by water users as a kind

[17] Permission is also not needed when water is for farming activities as long as the water is taken from the available irrigation system.

of negative externality or unintended consequence are dangerous for water preservation in the future.

In many slum areas, the low income households have not been connected to piped water, and well water is the alternative for them. Water supply enterprises in Indonesia sometimes refuse to serve piped water in slum areas. There are several reasons for this. One is that infrastructure investment is costly, but customers in the slums are commonly low income families, and charged at a lower or subsidized price so potential income for the water supply enterprises are low from their investment activities in the slums. Another reason is that slum areas are sometimes located in illegal housing areas. Supplying water in these locations can be interpreted as acting against the politics of the governments who mostly are the owners of the local public water enterprises in Indonesia.

Unfortunately, many cases of water borne disease are found in the areas of low coverage of a water supply service in which much poor housing is located (see detailed data in Chapter III)[18]. The poor in the cities generally consume water of low quality, and so are at greater risk of infection with water borne diseases. By a National Regulation, the state guarantees that all citizens will get a minimum standard of daily water in order to support them in a clean, health and productive life (Water Resource Act 7/2004 section 5). This is also an argument in the UN Agenda 21, Chapter 18 Section 47, mentioning that "all peoples, whatever their stage of development and their social and economic conditions, have the right to have access to drinking water in quantities and of a quality equal to their basic needs" (UN, 2004).

The CPWSE is not fully fulfilling its public mandates of water supply provision from the Local and Central Governments, nor the international global

[18] This was also used as a reason for selecting the case study location for survey.

consensus. Local policy documents from the Cinusa Local Government and the CPWSE officially commit the purpose of the water service delivery is to make a better life for the society in terms of social, health, and economic aspects.[19] The 1945 Indonesian Constitution article 33-3 also requires the state to take responsibility in managing water governance arrangements for social welfare (UUD-45, 2001). By the Water Resource Law Nr 7/2004 section 4, the water resource missions are required to balance between social, environmental and economic goals. These national and local public policies are alongside the international political commitment of states across the world in taking care of the environment and social development, as agreed in the Agenda 21 declared at the Earth Summit Meeting in Rio de Janeiro in 1992 (UN, 2004).

The government and public enterprise address diverse issues and need complex governance processes in order to serve public needs. Flood and Romm (1996, p. 9) propose that handling a diverse problem needs diversity management based on what they call "triple loop learning". The triple loop learning is based on questioning the taken for granted tasks (what), process (how) and rationale (why) for decision making, in which people always ask whether or not they are doing (i) things right, (ii) the right thing, and (iii) overlooking doing the right thing and instead making decisions on the basis of might or power.

[19] The water supply visions, missions, and goals have been mentioned in the Mayor's Decree of the Cinusa city number 447 years 2001, the Profile of the CPWSE 2003, and the CPWSE Corporate Plan 2000-2004.

I. 5. Explaining the Ineffectiveness of Public Goal Achievements in Indonesian Public Enterprise

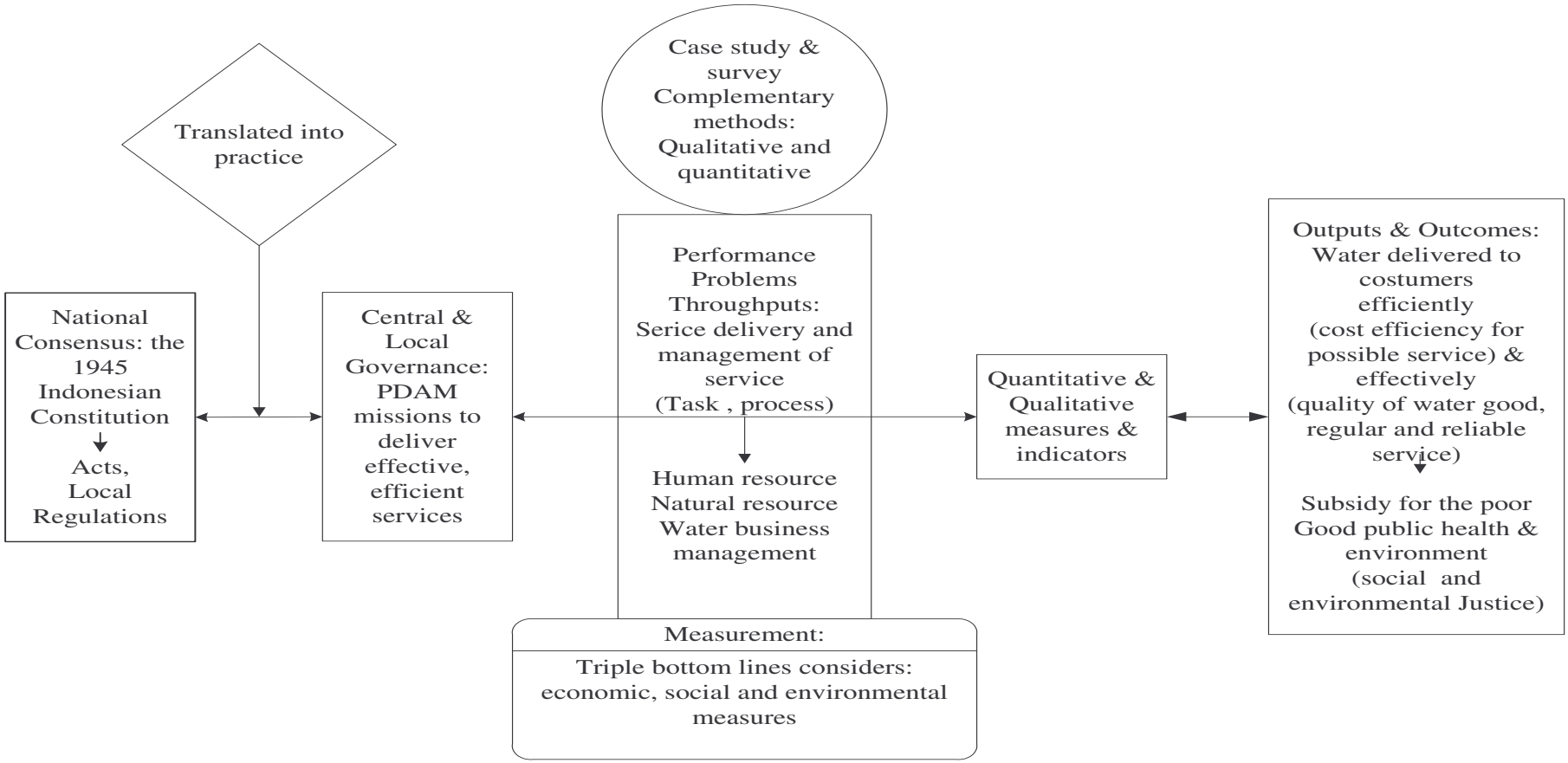
In the Indonesian context, policy regulation and implementation are required to pursue public goals and missions within the framework of the 1945 Indonesian Constitution (see Diagram I. 1). National laws with specific reference to public water supply enterprises include Water Resource Law and Local Government Law must satisfy and be interpreted within the Constitution. Operational legislation and policy documents about water concerns produced by the central political elites, local politicians, and water stakeholders can be considered to be applications of the water policy in the Indonesian context which carries out public missions and goals.

These policy goals and missions can be considered as a representation of 'desired policy outcome' (Osborne & Plastrik, 2000, p. 252) or 'desired outcome' (Osborne & Gaebler, 1992, p. 351; SCRGSP, 2004, p. 1.12)[20] of Indonesian society. An organization's goal effectiveness is usually related to its success in achieving desired outcomes of the organization's goals through a systemic management interaction across organizational aspects at the input, process, output, and outcome/impact stages.

The desired outcome of policy implementation is sometimes far from the goal expectation. Public servants at operational levels, named 'street-level bureaucrats' by Lipsky, merely interpret the public policies and regulations made by top executive and legislative institutions (Lipsky, 1980, p. 3). In other cases, governmental agencies and their counterparts at various hierarchical levels sometimes do not conduct the public missions. Policy implementation is often out of the policy corridor, and its consequence may even be against the policy goals and missions.

[20] Steering Committee for the Review of Government Service Provision

Diagram I. 1: Public Policy, Implementation and Measurement in Indonesian Water supply Enterprise



Implementers may give different policy responses with reference to their local contexts. Their responses can be negative as well as positive action. Predictably, any kinds of misconduct such as corrupt, collusive and nepotistic practices are definitely intolerable in laws and policies but practically these corrupt practices are often inevitable because of the political, economic and cultural conditions enabling these activities to happen with a moral hazard to people involved. Giving a maximum effort into policy goal achievement is desirable, but being aware of the policy goal constraints is also essential (Pressman & Wildavsky, 1984, p. 171).

A monopoly enterprise like a water supply service requires strict regulations of incentives and punishments and their enforcement for preventing misconduct of politicians, bureaucrats and enterprise managers and for securing the enterprise's public policy missions: social and environmental justice regardless of whether it is in the hand of government or the private sector, whether its management is transferred to the private sector.[21] But, as Turner and Hulme (1997, p. 182) consider, multiple goals of public enterprises covering aspects of economic, social and environmental are a part of public enterprise problems in placing their strategies.

These social and environmental goals can be used as an excuse for public enterprises being inefficient because they have to pursue social and environmental goals. Over employment in many public enterprises, for instance, is tolerated for the sake of public welfare issues in which citizens deserve to get jobs for their living. Other problems of public enterprise as mentioned by Turner and Hulme are a weak accountability system and an absence of suitable performance assessment criteria which occasionally prevent public enterprises from performing well (Turner & Hulme, 1997, p. 182).

[21] Guislain (1997, p. 10) in the World Bank Report mentions four kinds of privatization: sub contracting, management contract, leasing, and concession.

In the absence of clear goals, targets, accountability and a performance measurement system, some individuals in the enterprise and political elites can manipulate the situation to act apparently on behalf of solely public missions, but actually taking personal benefits from their action. So, strict regulation, management reform and performance measurement without accountability to citizens or a dynamically societal participation within the process can block the implementation of a good governance system and the achievement of balanced economic, social and environmental goals. Murphy says accountability to citizens can only be secured through open, transparent, accountable and effective mechanisms (Murphy, 1998, pp. 23-4).

The performance measurement process for public accountability needs to employ a systemic approach rather than a systematic evaluation, in the sense used by Midgley (2000). Evaluating performance measures are often contested with a lack of clarity in a complex problem, and learning from participants is required in these situations (Midgley, 2000, p. 233). The measures may need to be adapted to meet the different contextual considerations in the urban and in the more regional areas of Indonesia. The measures, however, will always need to take into account the needs of diverse service users within the various environments in which they live.

Harris et al argue that better governance can only be achieved by working for democracy in multiple arenas (Harriss et al., 2004, pp. 7-8). This study considers multidimensional performance measures taking on board the values of many stakeholders with different backgrounds. It 'unfolds' and 'sweeps in' in many dimensions in an attempt at systemic representation (Ulrich, 1983, p. 169).[22] McIntyre-Mills states that "service need to reflect the values of the users and for this to occur the

[22] The term 'unfolding' is cited by Ulrich from C. West Churchman's concept.

users need to participate in and decide on policy design and governance" (McIntyre-Mills, 2003, p. 14). Performance measurement systems can be used to detect a gap between services supplied by providers and various needs demanded by stakeholders.

Ineffectiveness in goal achievements and services has to be evaluated within the context of various stakeholders' viewpoints as they perceive the organization's performance and its creation of knowledge.[23] Knowledge about water service performance problems is likely to be closer to the complexity of reality if it is drawn from multiple stakeholders in the three governance sectors: the government, the enterprise, and the society involved in the interpretation of these problems. Smith mentions stakeholders in most public sector programs include users or potential users, taxpayers, national government, other legal institutions, workers, citizens and representatives of individuals or organizations (Smith, 1996, p. 6).

In this study about water supply service and performance, there are at least two reasons used to explain ineffectiveness of a public mission because of the limited involvement of service users in some important decisions. Firstly, the water supply enterprise and the government may only prioritize economic goals with social and environmental missions being neglected. In the case of the CPWSE, the utility uses general price escalation to increase its income generation, and also uses the income for covering costs from inefficient activities (see Chapter IV). This is a part of the CPWSE management response to the Cinusa city government and parliament insisting the CPWSE improves the yearly profit share it provides to them as its owner.

By Local Regulation (Nr.11/1974) 55% of the CPWE's net profit is distributed to the Cinusa Local Government.[24] In 2001, this was 4.18 billion Rupiah, about 15

[23] Knowledge is considered as a way of seeing reality within a dynamic process of interaction between observer and observed (Midgley, 2000, pp. 1-4).
[24] 15 % is allocated for investment or general reservation purposes, 10 percent each for production, for pension and charity, for social and educational purposes.

percent of the government's locally generated revenue.[25] The consequent pressure on the utility's management is indicated by the comment by a member of the Cinusa Control Agency.[26] In his email to me he mentioned the common assumption by members of the Cinusa Legislative Assembly that "profit reduction is connected with a low leadership performance of the FPWSE director. As a consequence, profit must be increased" (pers. comm., 1 June 2004).[27]

However, the 55 % of the CPWSE's net profit given to the Cinusa Local Government is not specifically allocated for improvements to clean water facilities in the Cinusa City. Most of the money explained by the Head of the Cinusa Legislative Assembly (interviewed on 9 March 2004) was used for general purposes such as development programs and projects in Cinusa with the 1974 Regulation's allocation for investment out of the profits only a low 15 %.

This study considers that the removal of cost inefficiency is required for water supply enterprises irrespective of any other financial or managerial strategy chosen, whether self-capital injection, a privatization strategy, a joint venture, or any other financial strategy. Potential saving from the reduction of cost inefficiency is remarkable and sufficient to improve the utility's financial capacity, such as investing in service performance improvements of water supply in the future. As Joyce mentions, removing cost inefficiency in strategic management is part of the initial effort for an organization reevaluating its position (for example through a SWOT analysis of its strengths,

[25] It is calculated from the CPWSE financial report 2001 and the Cinusa Central Bureau of Statistics 2002. The locally generated revenue of the Cinusa Local Government consists of local taxes, local fees, a share of profitability from local public-owned companies, and other revenues. These locally generated revenues including the local taxes are different and not accounted as the Local Government Revenue which is derived from funds transferred by the Central and Provincial Governments to this local government.

[26] This Control Agency under the Cinusa government is responsible for advice to the Mayor on evaluation of the CPWSE performance, but this body does not have power to take any water decisions.

[27] A similar comment is also given by the CPWSE managing director (interview on 26 March 2004) and the Head of Local Parliament in Cinusa (interview on 19 March 2004).

weaknesses, opportunities and threats), as a foundation for managing its strategic issues and developing its strategic vision for the future (Joyce, 2003, p. 3).

As well as the wasted potential profits through cost inefficiencies bribery and other corruptions are also the hidden costs. The individual hidden interests of actors with decision-making powers in or related to a water supply enterprise can defeat public interest. Buchanan mentions negotiating costs for attaining political agreement in the public economy (Buchanan, 1968, p. 9). Politicians, bureaucrats and private players are not always honest. Money politics can be used to give their political positions in the local assembly and government. It is costly; in return they use their power to get the "invested money" back with even more profit through corrupt practices.

The two conditions above can be improved if wider elements of the society are given access and rights to be involved in a more transparent decision making process and to evaluate the enterprise's performances and the governmental decisions. In the Indonesian case of governance of water supply, many important decisions such as water price, appointment and continuing approval of enterprise's senior manager positions and loans require approvals from the Local Parliament and Government. Several of these cases occurred during the study period. A negotiation cost for attaining their political agreement was a burden cost for the CPWSE and also for people who were trying to win managerial positions in the utility. The people who win the managerial positions use their power to get a return on their money politics. This situation is circular and hurts the CPWSE financially. The water price was increased, with the income partly used to cover the cost inefficiency. No subsidy for the poorer household customer was provided, even though the poorer household customer suffers from the current situation. They have paid their water bills at a profitable price or over

a break-even point (BEP) price (see detailed explanation in Chapter II. 6) so are themselves subsidizing Local Government's revenue through its share of the profits paid by the CPWSE (including paying for its cost inefficiencies and corruption). Nevertheless, the water tariff for the lower income household customer is still lesser than the other household groups as arranged in the progressively increasing price between household categories but this low household income is much smaller than the others so their cost burdens to their monthly bills are proportionally higher (see detailed explanation in Chapter IV).

The social welfare idea about equity through redistribution by charging more money from the rich and using this to subsidize the poor often does not work in practice, because inefficiency in public enterprise often outweighs the benefit supposed to be obtained and transferred in a subsidy scheme (Redwood, 1980, pp. 1-2). This sort of phenomenon occurred in the case of the CPWSE. The enterprise's inefficiency reduces its financial capacity that could, ideally, be used as a subsidy for lower income customers. This produces a situation against the Home Affairs Minister Tariff Regulation for PDAM Nr 2/ 1998 chapter 4 section 5 that poor households must be charged at a subsidized tariff (IHAD, 1998).[28]

The goal conflicts between the official policy missions of the public enterprise and a hidden agenda of corrupt actors are hard to trace and assess in the information produced by the current performance information system. The conflict is basically as Redwood (Redwood, 1980, p. 196) describes: "problems stem from the dissimilarity of aim between (sic) customers, governments and the industries on the one hand, and from the lack of clear objectives which can then be measured and performance appraised on the other".

[28] Indonesian Home Affairs Minister (IHAD)

Actors in politics and the private sector can have similar private interests. The local public enterprise wants to win and to speed up a favorable political decision from local politicians. If a majority of politicians require bribe moneys and the enterprise is willing to pay, the political agreement can occur quickly and without any difficulty. Both the political elites and the enterprise have a similar interest to hide the corrupt practices from the society. A double standard of financial and performance reporting is one of the ways to conceal the reality. Another way is that financial and performance reports are not made public. But even if the financial and performance information were available for the public, people would are still have difficulties in detecting cost inefficiency and in evaluating social and environmental justice. Performance indicators and measures are often too general, and difficult for the public to use as information for evaluation purposes. So, public accountability still has problems and needs a development of outcome performance measures for evaluating social and environmental goals (see chapter II).

In the Local Government Law 32/2004 section 20-1d accountability is mentioned as one among the nine principles of governing Local Government. Local public enterprises are a part of the Local Government. Ideally, the enterprise accountability is a part of the Local Government responsibility to report to the citizens about the enterprise's performance report. However, it is not mentioned in this Law that performance information must be made available to whoever is interested. There is also no sanction in this Law for a Local Government that does not provide the information for the public. This omission should be a target for the next reform of this Law by the Central Parliament. This study suggests financial, social and environmental measures and indicators that should be included in the performance measurement system as a means of accountability to the society.

I. 6. Explaining Cost Inefficiency in Public Enterprise

"Efficiency" is generally defined as cost per unit of output and process (Osborne & Gaebler, 1992, p. 351; Osborne & Plastrik, 2000, p. 252). The International Water Association (IWA) handbook defines efficiency as 'the extent to which the resources of water undertaking are utilized optimally to produce the service' (Alegre, Hirner, Baptista, & Parena, 2000, p. 3).

Efficiency in this study is used in terms of "productivity" in organizational theory and "technological/managerial efficiency" in the economics field. "Efficiency" in terms of productivity, the amount of output per the amount of input (Hatry, 1999, p. 18)[29], has been used in many existing reports of performance measurement including BPKP (2002), PERPAMSI (2000), and the World Bank (2002). Some of these reports are analyzed for a comparative purpose and explaining performance problems in this study.

Moreover, technological/managerial efficiency is related to producers' effort in maximizing their resource utilisation to produce goods and services (Lane, 2000, p. 61; Smith, 1996, p. 4).[30] Efficiency efforts can take several forms or combination of forms including reducing costs to produce more output or the same level of output; maintaining the cost level to produce more output; and increasing the cost to produce more output than before (Simon, 1957, p. 37). In this study, "efficiency" in this study is limited to refer to cost reduction for some or increased output.

Cost inefficiency can be produced by corrupt, collusive and nepotistic practices that cause extra cost burdens in the enterprise balance sheet. It is connected with the

[29] It is also specified as internal efficiency, with external efficiency related to the benefits or outcome from the organizational productivity performance which is related with the effectiveness term (Lane, 2000, p. 61).

[30] The other term of efficiency in economics terms is allocative efficiency in which the market just produces goods and service for consumers who want to buy them (Smith, 1996, p. 4). Allocative efficiency uses a Pareto optimal concept as production and consumption of product and service achieve Pareto optimal, when increasing the utility to someone will decrease the utility to someone else. It is defined as 'marginal utility (MU) of a good and service is equal to its marginal cost (MC) of production' or MU=MC (Lane, 2000, p. 61).

reduction of financial capacity. This lessening capacity reduces the enterprise from performing effectively in balancing economic, social and environmental goals. Cost efficiency in this case is used in term of cost effectiveness (Moore, 1995, pp. 24-5; Osborne & Plastrik, 2000, p. 254) with reference to the public manager's efforts in accomplishing public goals that are decided through a collective political process.

Leibenstein introduces the concept of "X inefficiency" or unnecessary cost in the public sector production side, with public enterprises being able to afford to not lessen their production costs because they have been granted a monopoly power over certain goods and services (Leibenstein, 1978, p. 160). "X inefficiency" is not always connected with costs in the enterprise production sector, but it also includes losses in general or rents (Lane, 2000, p. 61).

The government as the principal sometimes cannot get price information about a real cost in producing a good or service compared with the public enterprise itself as the agent who directly manages the process (Lane, 1993, p. 7). Asymmetrical information, uncertainty and incomplete information are the main characteristics in principal-agent relations, hence performance controls and agreements are used by the principal to control their agents' behavior to act on behalf of their interests (Boston, Martin, Pallot, & Walsh, 1996, pp. 18-21). With a gap in information in principal-agent relations, agents can manipulate their production costs for their own benefits.[31]

Public enterprises as the agents of government and society rarely achieve efficiency. It is not in their interest to be efficient, as their enterprise profits are finally managed by their principals (Lane, 2000, p. 81). To some extent, some public enterprise managers' behaviors are similar to some bureaucrats' behaviors that tend to maximize their budget cost (Niskanen, 1971, p. 41).

[31] In Principal-Agent relations, the Agent is expected to act on the behalf of the Principal's interest (Lane, 1993, p. 7).

Cost inefficiency due to corrupt practices automatically increases the budget side. Consequent inefficiency cost items can be reported as different costs than those for which were actually used. This cost inefficiency cuts the company's profit share passed on to their principals. The principals might not know of this specific situation due to asymmetric information, but more generally might know that there is inefficiency in their public enterprises. They can conduct positive or interventionist action to correct the situation, or keep silent over inefficiency because of personal incentives given to them by their agent through briberies. So, benefits from cost inefficiency can be accrued by both the principal and the agent.

The politicians and bureaucrats in the parliament and governmental institutions have a power to sell their decisions to those individuals or organizations seeking their approvals and willing to pay as long as the cost is far smaller than the expected benefit (Tullock, 1989, p. 1). This rent-seeking behavior can be detected in this study in which the CPWSE pays off a significant amount of money to politicians in the local parliament to get their approval over aspects such as water tariff escalation, even though the money was supposed to be used in an efficient and effective way for purposes of public benefit.

The society, especially its members who pay or the public enterprise service, can be considered as the victim, when the government and the enterprise decide to increase their service tariff under the cost inefficiency circumstance as explained above. As well as the enterprise being an agent for the government principal, the society is the principal for the government, and the government is the agent for them (Lane, 1993). The society can also be considered as the principal for both the government and the public enterprise in a democratic political structure, but in practice the society can turn

out to be the suffering side. A governance system for water supply arrangement needs to be questioned about both the efficiency and effective usefulness to citizens.

I. 7. Governing A Water Supply Service

In this study the investigating of the governing system of the water supply service is focused on performance problems in five interconnected aspects: (a) cost inefficiency; (b) water price; (c) water quantity; (d) water quality; and (e) water pressure and continuity. Performance measures and indicators are considered as a means for investigating performance problems.

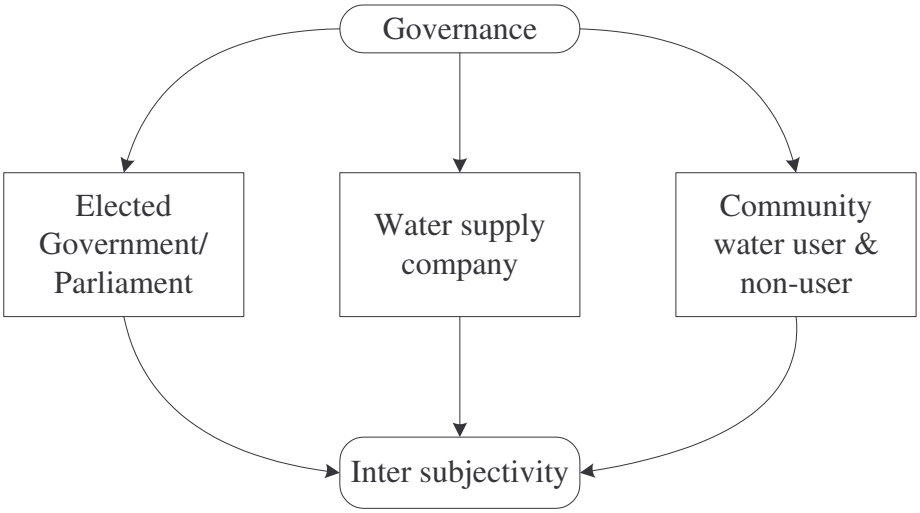
Interconnected performance problems in these aspects are explored from various sources of information including from the public sector, the business sector and the society sector to give a different picture (Rhodes, 2003, p. 4) or a multifaceted picture (Bevir & Rhodes, 2003, p. 66) of how actors from the three potential governance sectors perceive the governance. Understanding problems from various stakeholders' perceptions are crucial to make a better condition.

The definition of governance used in the study of this case draws on is that given by Kooiman (2003)[32] and McIntyre-Mills (2003) to create a systemic approach to social and political governance. The study is focused entirely on the process of problem identification and the creation of an opportunity for better measures among the three governance sectors considered as the 'first order governance' by Kooiman (2003, pp. 135-52). The study also discusses a limited analysis the 'second order governance', or the structural aspect of governing interactions, and the 'third order governance', or the normative aspects of governance concerns, (Kooiman, 2003, pp. 153-69, 170-90).

[32] The concept of social and political governance considered as "arrangements in which public as well as private actors aim at solving societal problems or create societal opportunities, and aim at the care for the societal institutions within which these governing activities take place" (Kooiman, 2003, p. 139).

Governance for the purposes of the model developed in this thesis is also related to 'interorganizational networks' (Rhodes, 2003, p. 15)[33], 'links' (Kettl, 2002, p. 119), 'interactions' (Kooiman, 2003, p. 4; McIntyre-Mills, 2003; Work, 2003, p. 195) and 'relations' (Frederickson & Smith, 2003, p. 222) among institutions and individuals in the three interconnected areas: public, private, and society sectors (Diagram 2). These three have a shared accountability, and have a connectedness among each other over public concerns. Every actor in the governance network can function as a watchdog to look after another. As Kooiman said, "in modern (public) governance top-down control is still an important mode of controlling complex activities, but other arrangements providing checks and balances, and even bottom up control, are wide spread to cope with complexity' (Kooiman, 2003, pp. 117-8).

Diagram I. 2: Governance for the Water Supply Service Arrangement[34]



[33] Rhodes identifies seven meanings or terms for governance that have been used by scholars as corporate governance, the new public management, good governance, international interdependency, a socio-cybernetic system, the new political economy, and network (Rhodes, 2000, pp. 56-60).
[34] This diagram results from a discussion with my supervisor. According to Schwandt (2001, p. 134) intersubjectivity literally means 'occurring between or among (or accessible to) two or more separate subjects or conscious minds'. Intersubjective is 'shared meanings, values, understandings, and so on that interpenetrate individual thought and action (Schwandt, 2001, p.2).

Governing complexity needs to involve stakeholders from the three governance sectors: the government, the enterprise, and the society (Diagram 2). If a shared accountability is only between the government and the public enterprise, with limited or no involvement from the society, a corrupt situation as described above is more likely and more possible as politicians, bureaucrats and business players can more easily manipulate the governance process and take individual advantages.

A strong political control from the executive and legislative agency over the water public enterprise combined with its limited accountability being limited to only various government agencies is not a conducive environment for socially responsible practice of governance. The local society needs to be given a legitimate right to be involved in the governance process as a part of getting balanced values and views between stakeholders across what should be the three of governance sectors.

Although in this reformation and decentralization period in Indonesia enforcing state building and deploying legitimate power for governing societal problems as Fukuyama proposes is essential (Fukuyama, 2004, pp. 119-21), state capacity building cannot be undertaken in term of large and all-powerful governments being evaluated to control all aspects of their social and economic life. As Rondinelli and Cheema assert, a competent government is more essential than a powerful government in a complex and changing global society; a government that prioritizes democratic, participative, honest, efficient, effective, and accountable political and administrative systems can lead its society toward human capacity development, economics prosperity, social equity, and environmental sustainability (Rondinelli & Cheema, 2003, p. 243).

In the case of the CPWSE, the local city government and its public enterprise, this can be considered as one of the powerful controls upon the water supply provision. The monopolized power of water business held by the government and the public water

supply enterprise has been de-politicized by being concealed from the public arena where democratic politics should take place. This situation creates performance problems in the governance relationship of these three sectors. The local government and its public enterprise as the providers of water supply service should be accountable to citizens or public service users.

Establishing an independent commission, as suggested by authors like Redwood (1980, p. 12) such as a regulatory body in the governance system is not the only way to solving the problem of water supply service, but accountability to citizens is still essential, because the actors who govern the regulatory body must be kept honest. The governance case requires citizens' involvement. Performance measurement and its accountability system will only be compelled to be effective if citizens lobby and keep governments honest.

The focus in this thesis is not entirely on the creation of an ideal independent body or governance network system, but it is concentrated on the development of the essential performance measures and indicators that would be necessary for effective public accountability. An important aspect of the current performance measurement systems used nationally and internationally by water business owners and players is that social and environment measures are still less developed than economic ones.

I. 8. Accountability and Control in Public Enterprise

"Accountability" is defined by Pollitt et al as "a relationship in which one party (the accountor) is obliged to render an account of his or her actions (or the actions of a particular organization) to another party (the accountee)", while "control" is "the ability of an actor to direct the actions of another - for the first actor to oblige the second (third, fourth and so on) to do things they would not otherwise have done or to refrain

from doing things which they otherwise would have done" (Pollitt, Birchall, & Putman, 1998, pp. 12-13).

Accountability and control is a noticeable problem in public enterprises (Hughes, 2003, p. 95). A willingness to present a transparent report from the enterprise to the government and from the government to the society is a supportive environment for better accountability. Transparency is totally needed for accountability. However, there is no warranty that every actor carries good political willingness. Corrupt practices can make corrupt actors try to hide performance information away from transparency and publicity. For example, various motivations among political and business actors related to water provision can be challenge in developing a good governance system. A concern for any government in governing by networks is how to make their private partners effective in administering the services and goods, and to hold them accountable for this (Goldsmith & Eggers, 2004, p. 41).

Three aspects of governance are the core concerns of the World Bank (WB, 1992, p. 2); "accountability, the legal framework for development, and information and transparence". Accountability to citizens is the only way in which performance can be effectively assessed, and the corrupt practices can be eliminated. Making performance information available publicly is essential for a democratic atmosphere. An example would be if interested people in the case of water governance could get access to performance information from the public enterprise management or the Local Government through various media such as their websites, not necessarily in hardcopy.

The public accountability through provision of transparent and full performance information is ideally backed up with a sufficient societal right to this. This would act as a control tool if it were granted clearly in the appropriate regulation with a particular legal consequence to the water business players (the Local Government or its public

enterprise), if they fail to provide the information publicly. Accountability and control are like a coin. One side of coin as a responsibility is an inseparable element for the other side as a right.

The current right given to a customer under the Consumer[35] Protection Law Nr 8/1999 (Chapter 4 section: Right and Responsibilities, sub section 4 c) only mentions a consumer' right to get true, clear and honest information about the enterprise's product or service condition, and be given a warranty on their goods and services.[36] This regulation is generally appropriate for private goods and services, but it is not entirely so for public goods and services such as water supplies that carries public missions.

The regulation does not mention customer and also non-customer rights as individuals or groups to access performance information publicly. The customer through the performance information can evaluate whether or not they are paying their bills at an efficient or subsidized cost. Non-customers are ideally granted a right in the accountability process, especially in the case of public goods and enterprises, for example, if they are interested in taking up the goods and services offered and becoming a customer, or if they want to know why the service is not being offered to them or is being offered only at particular prices or with particular conditions.

In many cases, performance measures and information are only reported from public enterprises to governmental institutions, but this accountability system cannot directly be considered as a manifestation of public accountability to citizens. Performance information that is kept as secret information only for the company and governmental institutions invites further investigation. A missing link of public

[35] Customer and consumer share the same meaning, but the former term is commonly used for a consumer who regularly uses or consumes a certain product or service from a certain producer or service provider. So, water supply users can be considered as customers.

[36] This is the only one right from eight consumer rights that refers to performance information. The Consumer Protection Law Nr 8/1999 is available on the website of Yayasan Lembaga Konsumen Indonesia (YLKI), the Indonesian Consumers Association.

accountability from the Local Government and public enterprise to the citizens is always questionable. The possibility that a Local Assembly and Government do not always act on the behalf of public needs can be considered as a political moral standard dilemma.[37]

In the future, the regulated requirement of an arrangement of an accountability system should be a part of both: Consumer Protection and Local Government Laws. If the performance information is publicly available, interested individuals or groups in the society can use it to evaluate the water performance service financially, socially and environmentally.

Such a requirement does not mean that the public enterprise needs to print its performance reports and distribute them to all citizens. This would be costly and wastefully cost-inefficient as not all citizens are interested in the information. Performance information should be made available for citizens who are interested in it. They could get the report on the request from the enterprise or the government, or access the information from an appropriate website (enterprise and/or government). This transparent public accountability could be effective in pressing the water actors being more responsible to their public mission, and prevent them from corrupt behaviors.

However, performance information sometimes does not cover all the performance indicators that are needed to evaluate certain aspects of organizational goals and outcomes, especially of social equality and environmental justice. This study identifies and develops a set of performance indicators that can be used as an evaluation tool for assessing water supply service performance socially and environmentally, and as a means of public accountability for results.

[37] Corbet uses the terms of 'upward and inward accountability' as accountability for superior and subordinate; and 'outward and inward accountability' as accountability for society and moral standard (Keehley, Medlin, MacBride, & Longmire, 1997, pp. 196-202).

I. 9. Scope and Limitation of the Study

The scope of this study is limited in terms of place and time. The study is limited to the Cinusa city area: its Local Government and Parliament, the CPWSE, and the local society. In that society, customers of the CPWSE from three neighbors or "case study locations" were selected for case study locations (see Chapter III). The evaluation of water users was entirely concentrated on the water supply customers in these three neighborhood areas. The non-customers are discussed in limited analyses such as in relation to the case of water borne diseases in non-customer locations to indicate the negative impact of the absence of water supply service in their areas. However, this study considers that they are a part of society that is useful for evaluating undesired outcomes and any ineffectiveness of goal achievements as explained earlier. An in-depth study of the non-customer areas is highly recommended for the future. Because of the limitations in time and funds during this study, and its priorities, information about non-customers could not be explored completely.

In terms of the time limitation of the study, its analyses are concentrated on the years from 2000 through 2004, the years after the implementation of Local Government Law Nr 22/1999. As explained earlier that during that period, the Local Parliament members had the power to force the Mayor to step down from the position. Any consequences from the revised Local Government Law Nr 32/2004 would not appear until the new local election was conducted which was to be well after the study period. However, the content of this revised Law is discussed in several parts in this study.

Nevertheless, a comparative study of service performance between the CPWSE other water supply enterprises nationally and internationally is not as limited in term of the time and place as was the more detailed case study mentioned above. Information

about service performances in other water supply enterprises that have been accessed from various institutions and published is only available for certain years, and it was the capacity of this study to provide new performance information of water supply enterprises in many countries across the world.

Using comparative performance measurements in this study was not aimed at finding an absolute best practice, as a benchmarking study usually does. Another version of "best practice" is searching for "anything better than your current practice" (Keehley et al., 1997, p. 19),[38] by comparing 2 organizations or cases. In contrast, this study aims to investigate a case with known and suspected performance problems of its own, and it uses comparative performance information to indicate its performance position as compared to others.

Anyway, in a performance comparison it is quite possible that the compared agencies have different ways in collecting, reporting (Kopcynski & Lombardo, 1999, p. 124) and calculating their performance indicators. But a comparative study is still useful in identifying the current performance position against others. As Morley at al. mentions, there are several steps of comparative performance measurement (CPM) from measuring one's own performance, obtaining other performances, comparing the performances, identifying differences in performance and the reasons for the differences, learning from the differences, and applying this learning for performance improvement (Morley, Bryant, & Hatry, 2001, p. 1).

The performance information from the comparative study involved in this investigation is only used to better know the current position of the CPWSE compared to the others. The service performance gap between this enterprise and others is used to explain its failures and successes. Exploration of performance information in

[38] Other ways of defining best practices are through a media notification and the winning of an award (Keehley et al., 1997, pp. 21-24).

explaining performance problems and opportunities are conducted in relation to the three desireable governance sectors: the government, the enterprise, and the society.

In addition, the study is prepared to identify and develop better measures as a means to greater accountability for social and environmental justice although it is not wholly prepared for the full investigation of ideal governance networks, institutions and norms. Similarly, although the study also investigates efficiency in term of cost inefficiency from corrupt, nepotistic and collusive practices, it is not prepared for the investigation of an economic calculation in search of optimal efficiency. Profit maximization analysis is discussed in term of its potential contribution to better services and better supports in balancing between economic, social and environmental missions of water supply provisions.

This study identifies several aspects of service performance problems of this particular water supply including cost inefficiency, pricing policy, water quantity, quality, pressure and continuity in their relations with ineffectiveness of achieving public good goals. So, this study evaluates effectiveness in terms of ineffectiveness of social and environmental goal, with these ineffectivenesses characterized as undesired outcomes. The study also identifies several indicators that are useful for evaluating these undesired outcomes and indicating whether or not the water supply enterprise is moving in the direction of social and environmental goal achievements.

Although quantitative data and analyses are used in this investigation the study report is not prepared to explain (i) the correlations between aspects of service performance problems in the enterprise (such as strong or weak correlations); or ii) how far the undesired outcomes are caused by problems of service performances in the enterprise, by use of the statistical techniques such as correlation and regression

analyses which are commonly employed for these kinds of studies in the quantitative research tradition.

I. 10. Overview of the Chapters

Chapter I establishes a basic reason for developing an outcome performance measurement of an Indonesian water supply service. Discourses on public good, enterprise, and goal are introduced, in order to develop better understanding of the study case. Areas of concern are explained and then focused in interconnected aspects including cost inefficiency, tariff, water quantity, quality, pressure and continuity. Cost inefficiencies and the ineffectiveness of goal achievements are defined within the contexts of governance and public accountability. Study limitations and a general chapter overview are also presented in this chapter.

Chapter II develops webs of outcome performance measurement and indicators and discusses in more detail concepts of performance measurement, performance measures and indicators. National and international approaches and models of measuring performance are analyzed. A model of outcome performance measurement and indicators is then constructed, and used as a tool in helping the further investigation.

Chapter III presents the research methodology. The reasons for using a combination of complementary methods and for selecting the various research approaches are explained. The research approaches including (i) case study with personal interview, document analyses, observation and documentation; (ii) survey by interview; and (iii) focus group, are explained. The processes of data collection and the reasons for selecting three neighborhood areas as the case locations for the survey are also explained.

Chapters IV and V are about data presentation and analysis. They cover five main topics: cost inefficiency and water tariff (Chapter IV) and water quantity, quality, pressure and continuity (Chapter V). Problems of service performances and opportunities are identified and evaluated here. Implications of the service performance problems with a focus on social and environmental concerns are evaluated. Chapter VI concludes the study report. Recommendations for better social and environmental measures are presented for the next arrangement of outcome performance measurement.

Chapter Two

Developing Outcome Performance Measurement of Water Supply Services for Social and Environmental Justice Concerns

II. 1. Introduction

As mentioned in the previous Chapter, in international, national and local official documents, social and environmental goals of water supply services are now put alongside economic goals as parts of their public missions. Performance measurement is used as a means to monitor whether or not water supply enterprises keep on track with their public goals and missions. Unfortunately, the available performance measurements are not entirely set up to steer the enterprises towards social and environmental goal achievement, and often fail to accommodate particular needs of their local contexts. Top-down performance measurements are commonly designed to serve top-down elite interests instead of those of the common people, especially grass root communities and the poor. This chapter develops a proposal for performance measurement from both the substantive literature on outcome performance measurement and the methodological literature on systemic intervention. A model called Outcome Performance Measurement and Indicator Web is developed to be used as a means to evaluate social and environmental goal accomplishments.

II. 2. Learning from the Development of Outcome Performance Measurement

Outcome or result performance measurement in the Indonesian context has not yet become a national program. In some countries, a move towards outcome oriented measurement and management has been declared as a national agenda, and several approaches used to make it work by installing national charters, legislation and institutions. For example, the United Kingdom government announced its Citizen's Charter in 1991 following the previous efforts of its Financial Management Initiative 1982 and performance improvement programs: the 'Next Steps' 1988 (Mayne & Goni, 1997, p. 6)[39]. Governmental agencies in the UK use the seven general principles[40] of the Citizen's Charter as a guide to create their own specific charters, making these relevant to the nature of the public services they provide. Ball reported that thirty-eight agency-specific charters were developed soon after the declaration of the national Citizen's Charter (Ball, 1998, p. 176). Public institutions are required to work as stated in their charters' missions and to be accountable for improving the quality of their public service (Ball, 1998, p. 174).

The Unites States chose a legislative approach by launching its national GPRA (Government Performance and Results Act) in 1993. The main reason for this was to counter a decline of public trust and governmental budget capacity in the US by strengthening public performance and accountability for results and thereby win back trust from the American society (Aristiqueta, 1999, pp. 12-15). By this legislation,

[39] Mayne and Goni (1997, p. 6) also report public sector reform initiatives in several countries: France, Canada, New Zealand, Australia, Finland, Norway, Spain and the USA.

[40] The seven principles of the Citizen's Charter are: explicit standards of service, where possible backed by target responses or waiting times; openness about who is delivering a service with most staff wearing name badges; information about what services are provided, details of targets set and results achieved; choice, where practicable, using providers and by consulting with service users; accessibility with services arranged to suit the convenience of customers and not staff; explanation if things go wrong and a well publicized complaints procedure; and non-discrimination with services available irrespective of race or sex (Ball, 1998, pp. 174-5).

governmental institutions in USA are required to work efficiently and effectively by making their service accountable and oriented to outcomes for the people, as they are required to have a system of strategic planning and performance measurement that concentrates on program results, service quality and customer satisfaction (Radin, 1998, p. 308).

In Australia, a Steering Committee for the Review of the Australian Government Service Provision (SCRGSP) that is comprised of senior representatives from the central agencies of all governments has actively monitored and provided information on the effectiveness and efficiency of fourteen government services covering areas of education, justice, emergency management, health, community services and housing (SCRGSP, 2004, pp 1.1-6). This Agency, previously named the Steering Committee for the Review of Commonwealth/State Service Provision (SCRCSSP) until mid-2003, has been providing annual performance information on 14 public services publicly through their website since 1995.

However, a strong governmental commitment in measuring public service performance is not usually without any trigger or driver. Beside reasons of public trust, a spirit of tight governmental budget is also a reason (Radin, 1998, p. 12) for governments to spend less and be more focused on results (Epstein, 1984, p. 1). Result management and budgeting is a way of reviewing decisions and issues in the public sector landscape (Nathan, 2001, p. 4). Academics and writers in the media also influence agencies to be more oriented on result performance measurement and management. Publications such as Diversity Management (Flood & Romm, 1996) on performance management and Osborne and Gaebler's (1992) on 'reinventing government' have inspired many institutions, organizations and individuals across boundaries of public and private sectors. Aristiquesta has claimed that Osborne and

Gaebler's work is considered a part of the drivers in increasing public debate in USA to take seriously concerns about outcome performance measurement and evaluation, and in influencing the US government to legislate the 1993 Government Performance Results Act (Aristiqueta, 1999, p. 10).

So governments' action in lifting outcome performance measurement to become a national program and agenda would be initiated by a societal condition which included public trust decline, budget strain and social protests together with focusing urgings and interpreting by academic writers. Even though the early implementations of outcome performance measurement was faced by some difficulties such as, in the UK, unclear measures in the Citizen's Charter, there have been continual improvements in developing better measurements (Ball, 1998, p. 182). A dynamic interaction between the government and elements of the civil society (individuals, organizational communities and the private sector) resulted in a common awareness in which outcome performance measurement was urgent and required placing on the national agenda.

The situation as described in these three countries above that was needed to establish result performance measurement as a national issue is still absent from the Indonesian political context. In the countries mentioned, public service performance measurement jobs are not conventionally monopolized by public auditors from their national audit agencies in which they are mostly concerned with financial measurement aspects, but performance is also evaluated by other public agencies that work across governmental departments and institutions, measuring both financial and non-financial aspects, and reporting the results publicly. The Indonesian performance measurement system still maintains the traditional style in which measuring jobs are dominantly held by public auditors who are obliged to report their auditing findings to only the government or parliament whilst prohibited from publishing them publicly.

The auditing job for Indonesian Local Public Water Enterprises (PDAMs), is held by auditors from the Agency for the Control of Finance and Development (BPKP) who report their auditing results only to the government (ASOSAI, 1989, p. 74). A further step of measuring PDAM performance has been initiated since 1999. The measurement done by the BPKP auditors includes operational and administrative indicators beside financial indicators, as explained in the next section. However, these three measured areas are still concentrated on the output measurement and have limited information for evaluating outcome performance. This research develops a set of outcome performance measurements and reporting that can be used to evaluate the outcomes of economic, social and environmental goals of water service provision by people including stakeholders regardless who is doing the auditing.

II. 3. Explaining Outcome Performance Measurement

The current mode of measuring organization is by performance measurement that is oriented to results or outcomes. Murphy (1998, p. 23) describes what the citizens want (public interest) from public administration is that "it is honest, it is fair, it is responsive to them and inclusive of them, it is efficient and gives value for money, it is effective in that it produces results or outcomes which increase the welfare of the community as a whole, economically, socially and environmentally". This public interest is the result expected by citizens. Even though it is easier to say than to make it work in practice, it gives a direction for public managers to keep on the track of a result or outcome orientation. A result or outcome performance measurement is therefore an appropriate means to evaluate the achievement of public goals such the kind of public interest as described by Murphy.

Definitions of performance measurement given by experts in this field can be put into two categories; Output accomplishment and Outcome accomplishment. The second category is the focus of this study.

The first category is defined by authors such Harbour (1997, p. 7) as a process of measuring output performance achievements. The term 'output' refers to the amount of products and services delivered or completed during a certain period, while 'input' refers to the amount of resources has been used, such as expenditures and employees (Hatry, 1999, p. 12-13). The ratio between this 'input' and 'output' is defined as 'efficiency'. However, outputs of goods and services can be delivered to a society without any relationship with the achievement of any social goal. A quality water supply service at a reasonable tariff cost, for example, could be delivered to water customers by a water public enterprise. But if there is no subsidy tariff for the poor as instructed in the policy documents and regulation governing that service, that social goal is not a part of its priority targets. Concentrating performance measurement on only output measures can be misjudged, because these are not always related to the outcomes as intended in the organizational goals so could contribute to ineffectiveness in achievement of these goals. Providing quality products or services at reasonable expense and achieving organizational goals or effectiveness do not always work in the same direction. As Osborne and Plastrik (Osborne & Plastrik, 2000, p. 252) state, 'quality' is "how well an activity or process is performed or an output is produced. This is not quite synonymous with effectiveness, because one can measure the quality of a process or output without measuring its effectiveness" (Osborne & Plastrik, 2000, p. 252).

The second category, Outcome or Result performance measurement is constructed to measure organizational performance in terms of achievement of

specified outcomes. The reason for measuring performance is "to produce objective, relevant information on program or organizational performance that can be used to strengthen management and inform decision making, achieve results and improve overall performance, and increase accountability" (Poister, 2003, p. 4).

Smith (Smith, 1996, p. 2) defines outcome as 'a personal valuation of quality-adjusted output'. He formulates this as 'Outcome = valuation (output x quality)'. In addition Hatry defines outcome as **'**the events, occurrences, or changes in conditions, behavior, or attitudes that indicate progress toward achievement of the mission and objectives of the program' (Hatry, 1999, p. 15).

Hatry categorizes Outcomes into two: Intermediate outcomes and End outcomes. The former are 'expected to lead to the ends desired but are not themselves ends' (Hatry, 1999, p. 16). The latter are considered to be the consequences of what the program (the organization) did to the society or individuals (Hatry, 1999, p. 15). For Weiss only the latter are considered to be outcomes, which he defines as end results, effects, and impact; with 'impact' regarded as long term outcomes of a certain program to participants (Weiss, 1998, p. 8). Measuring the degree of interconnection between organizational activities and end outcomes or impacts require more in-depth studies (Hatry, 1999, p. 22). This study uses the term 'outcomes' interchangeably with 'result', 'effect' and 'impact'.

However, looking only to measurements of outcome without taking care of the expenses of output is also risky. Activities in gaining goals can be costly, and these efforts may not be worthy at all when compared with their total cost. Hence, outcome performance measurement is commonly developed within a context of 'cost effectiveness' (Epstein, 1984, p. 2; Hatry, 1999, p. 3). It is crucial both to measure performance in term of outcomes and at the same time to keep efficiency within a

corridor of organizational goal achievement including cost effectiveness. SCRGSP mentions that the focus of performance measurement has been shifted "from resources (or inputs) to the use of resources to deliver desired outcomes of government services" (SCRGSP, 2004, p. 1.4). Governments must be accountable to parliaments and the public on what they spend and what results they produce (Poister & Streib, 1999, p. 326).

The other consideration is that measuring desired outcomes should go alongside with measuring undesired outcomes. Mayne and Goni (1997, p. 5) state that a well-performing public program or service is "one that is providing, in the most cost-effective manner, intended results and benefits that continue to be relevant, without causing undue unintended effects". Measuring outcomes is crucial, but measuring unintended negative impacts of a provision of goods and services is also urgent (Epstein, 1984, p. 18). Moreover, although unintended outcomes and impacts can be positive or negative, a negative implication is preferably detected at an earlier stage. As Hatry (1999, p. 1) says, the important thing in managing for results is how to eliminate negative impacts and maximize benefits for society. It is a part of public accountability to anticipate negative impacts. Finding negative undesired impacts in an evaluation study can be considered as an organizational failure in achieving desired outcomes.

In this case study, negative impacts of cost inefficiency in the CPWSE would be the reduction of its financial capacity. As a consequence, the enterprise would have difficulties in improving its service performance. A further consequence of this situation is that the CPWSE could not carry out its social and environmental missions as declared in several policy documents[41] whereas social considerations are among the reasons why public enterprises like the CPWSE are established and maintained.

[41] Already mentioned in Chapter 1, p. 11

However, measuring desired and undesired outcomes is not without any problems. Wholey and Hatry (1992, pp. 604-10) warn of difficulties in measuring these outcomes. A comprehensive measure is needed to be developed for overcoming a difficulty to judge whether reported outcomes are caused by the organizational activity by itself or together with other factors. Some information can be sufficiently monitored quarterly or annually, but some other information is more appropriately gathered through periodic in-depth program reviews. Performance indicators may also be less feasible. So, in monitoring program results, valid and reliable measures are required. In this context, an organization can compare their current performance with that at the beginning of reporting periods, their actual outcome to targets set in the first year, their performance among groups of users or of served locations. In addition, performance monitoring is also costly. The cost is not only in terms of finance, but also includes social and political costs as the possibility of stakeholder evaluation of organizational performances through performance information (Wholey & Hatry, 1992, pp. 604-10).

II. 4. Synthesizing and Developing a Framework for Measuring Performance

In this thesis, an Outcome Performance Measurement Web (see Diagram II.1 later) is developed and used as means for evaluating the performance of the public enterprise used as the case study. In the literature several models of performance measurement have been developed (Table II.1), and can be classified into three categories. Firstly, authors like Epstein (1984), Kaplan and Norton (1992) use organizational aspects (internal and external organizational factors) as the measurement target. Secondly, several authors measure organizational processes in a systematic way, either from input, process, output, to outcome (Hatry, 1999) or in the opposite direction from policy outcome to input (Osborne & Plastrik, 2000). Smith's cybernetic model of

measuring outcome (1996) that starts outcome measurement with a procedure from system, measurement, analysis and action would be in this category. Thirdly, authors such as Elkington (1997) use organizational goals as the end of the measuring scale, with his 'triple bottom line' concept suggesting the measuring of organizational performance in terms of economic, social and environmental goals and missions.

Table II.1: Models of Performance Measurement

Epstein (1984) Effective-ness measure	**Kaplan & Norton** (1992; 1993; 1996a; 1996b) Balanced Scorecard	**Smith** (1996) Cybernetic model of control for outcome performance measurement	**Elkington** (1997) Triple Bottom Line	**Hatry** (1999) Logic model of performance measure-ment	**Osborne & Plastrik** (2000) Performance measure-ment matrix	**Flood and Romm** (1996) and **McIntyre-Mills** (2003) Diversity Management Triple-loop learning
Community condition	Financial scorecard	1. System	Financial bottom line	1. Inputs	1. Policy outcome	Doing the things right
Service accomplish ment	Customer satisfaction scorecard	2. Measurement	Social bottom line	2. Activities	2. Program or strategy outcome	Doing the right thing
Citizen or client satisfaction and perceptions	Internal process scorecard	3. Analysis	Environ-mental bottom line	3. Outputs	3. Outputs	Confusing rightness and mightiness involving those at the receiving end
Unintended adverse impacts of a service	Innovation & Learning activity scorecard	4. Action		4. Outcomes	4. Processes	
					5. Input	

These models that focus on certain concerns of performance measurement with reference to organizational aspects, processes or goals contribute valuable foundations for measuring performance. However, in more diverse and complex problems and circumstances, the applicability of these models is questionable, especially measuring

performance in multiple networks of inter-relations between (sub) organizations and individuals across boundaries of public, private and society sectors. In systems thinking a framework is used “for seeing interrelationships rather than things, for seeing patterns of change rather than static snapshots” (Senge, 1990, p. 68). So a more comprehensive performance measurement model is needed to adequately represent and measure dynamic interrelationships of organizational factors.

In addition, a systemic approach is developed for this model instead of a systematic approach that has been commonly employed in the previous models such as those of Smith (Hatry, 1999; Osborne & Plastrik, 2000; Smith, 1996). In the systematic approach, the designing process is considered as ‘an orderly sequence of activities’, ‘steps or phases in logical and linear arrangements’ (Banathy, 1996, p. 16). The systematic approach is an engineering style that by and large does not match with organizational models in social science fields. In these, variables in input, process, output and outcome are not automatically fixed. There is a trade-off among various considerations and interests of stakeholders, with this process under the influence of external factors that are likely to be out of the control of the organization.

A systemic approach is more relevant for this case, because its investigation requires “a creative, disciplined, and decision-oriented inquiry, carried out in iterative cycles” (Banathy, 1996, p. 16). Midgley (2000, pp. 10-11) in the same line with McIntyre-Mills (2003) suggests a systemic intervention that “involves reflecting on the boundaries of problematic situations; sweeping in the viewpoints of a wide variety of stakeholders; ensuring that issues of marginalisation (of stakeholders and issues) are addressed; and drawing upon theories and methods to suit the purposes being pursued”. The existing performance problems are generally approached with economic concerns, but this study includes social and environmental analysis, especially implications of

under performance of water supply service on marginal people. Economic, social and environmental concerns are connected one to another as investigation through iterative cycles is employed to evaluate connections among them. However, points of views from various stakeholders collected in this study can reflect several interests on the existing performance of water supply delivery. The systemic intervention in this study is related to the way of this study creatively investigating stakeholders for developing and re-evaluating the performance measurement model and its applicability._By utilising this approach, the study can learn multifaceted views, and limit undesired outcomes from the program intervention (Midgley, 2000, p. 11).

The performance measurement model developed for this case is best seen as a network model, a web of performance measurement. The relevance of this model to the case to be investigated is that the contractual relationship of water supply service from the local government to the water public enterprise which has been used for many years can actually be categorized into the definition of the web model of governing by network. As mentioned by Goldsmith and Eggers (2004, p. 6), public service provision in the new model of governing by network relies more on “a web of partnerships, contracts, and alliances to do the public's work”. In the web model, governments are less involved in directly managing public services and act more as “generators of public value within the web of multi-organizational, multi-governmental, and multi-sectoral relationships that increasingly characterize modern government”.

This new relationship differs from the conventional contractual relationship and can cause problems as many governments continue to use a hierarchical or bureaucratic approach in managing their public enterprises. Such hierarchical models could not cope with complicated problems in the new contractual or partnership relationships or in the model of governing by network (Goldsmith & Eggers, 2004, p. 8). This is also another

reason for explaining the failure of the government-public enterprise relation beside the reasons explained in Chapter 1. That the local government politically intervenes and influences many managerial decisions in the public enterprise is a part of the problem. More public accountability is definitely required to be implemented in the contractual and partnership relations. Developing a web performance measurement and public accountability system is a new hope in solving the problems of government-public enterprise relations.

The local government in the case study area prefers to retain the current government-public enterprise structure and is reluctant to take the initiative of privatizing the local water service delivery provision.[42] Reforming performance measurement for results and developing accountability for citizens in the government-public enterprise relationships are essential in improving the condition of the water supply service. Maintaining the current mode of relationships is unjust for the society and the environment. Therefore an Outcome Performance Measurement Web, as shown in a simplified form in Diagram II.1, has been developed to be used as a means for evaluating social equity and environmental justice in public enterprises.

This is a flexible model, and not for use as a fixed model as usually used to test hypotheses in the positivist tradition. Rather, this model was developed from the researcher's understandings from his reading of the literature and then used as an interactive tool in analyzing the case study. This systemic model can be continually modified following developed values related with outcome measurement developed by stakeholders.

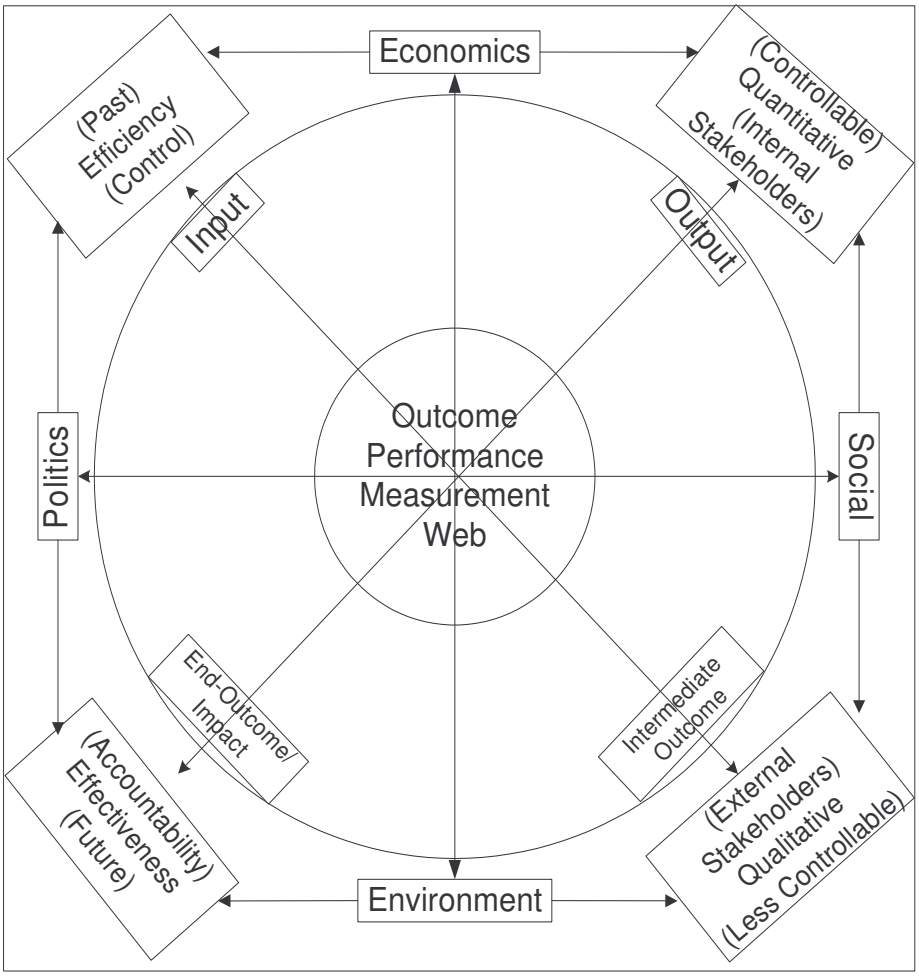
[42] The CPWSE and the Cinusa city government have refused a privatization proposal offered to them by one water private company from England. The managing director of the CPWSE (interviewed on 25 March 2004) told me he had learned from two privatization cases of PDAMs in Jakarta that any significant benefits went only to the private water companies with little improvement of the water service provisions. The contract agreement maximally protects the water companies' interests, but minimally protects the Jakarta Metropolitan Government. The business agreement is suspected of having involved briberies.

First of all, the model involves an agreement that measuring economic, social and environmental goals, such as suggested by Elkington (1997) for pursuing a 'triple bottom line', is crucial, but also an assumption that so are analyses of (hidden) political goals of political elites and private actors.[43] Such a balanced scorecard also provides useful information for various stakeholders: managers, employees, investors and customers (Kaplan & Norton, 1993, p. 150).[44]

Diagram II.1: Outcome Performance Measurement Web

[43] Elkington is concerned about sustainability, and suggests the replacement of the (past) traditional single financial bottom line with a 'triple bottom line' focusing on economic prosperity, environmental quality, and social justice. A better understanding of natural, human and social capital beside financial and physical capital is a requirement to effectively pursue social equity, environmental justice, and business ethics (Elkington, 1997, pp. 70-72).

[44] Kaplan and Norton suggest a 'balanced score card' as a performance measurement way for managers to translate their strategic missions into goals, and a comprehensive set of performance measures which include aspects of customer satisfaction, internal process, growth and learning beside the traditional financial measures (Kaplan & Norton, 1992, p. 125).



Even though these arguments for a balanced scorecard and triple bottom line were mostly placed within the context of private business companies, they are also very relevant for public enterprises, particularly as these are usually established for reasons of social justice (as explained in Chapter 1).

Nevertheless, problems in public enterprises are often more complex, and need to be unfolded by discovering and analyzing secret interests of politicians and private actors which are against the institution's professed goals and which squash its social and environmental missions. A hidden agenda of political actors and their private allies can cause negative consequences which must be prevented and stopped by making their activities publicly accountable.

Elkington mentions that enterprises do not have much power to control all political and social issues. But enterprises and governments who hold the dominant economic and business power are actors who may plausibly contribute to social problems, or make existing problems more acute. If this is happening, the situation can undermine or prevent the realization of social and environmental missions. An overwhelming domination by enterprise and government has to be ended with a legitimated role or right of the society to control their activities. Outcome performance measurement provides a tool that can be used by the society to evaluate them (Elkington, 1997, p. 71).

Elkington also mentions difficulties in measuring outcome performance connected with economic, social and environmental justice. It is not an easy way or is still in 'black boxes', and "more talked about in generalities than defined in precise terms" (Elkington, 1997, p. 92). This case study makes his triple bottom line concept operational in the context of water supply service provision by exercising a web of social and environmental performance measures. Outcome performance measurement can be used for feedback and accountability (Kaplan & Norton, 1996b, p. 196), with information from it a window for society to evaluate public services provided for them efficiently and effectively.

Secondly, the model uses organizational processes of input, output, intermediate outcome, and impact (end outcome) within a systemic process of interaction among these elements. The interaction does not always follow systematic steps with simply one element following another, but is a systemic interaction, more flexible with many possibilities of the elements' interconnections as shown in Table 2.3 in the next section.

Initially goal analyses are undertaken to look at what the public service wants to achieve. The expected end-outcome or impact from its organizational activity is the

achievement of these goals. Kaplan and Norton consider that "organizations are competing in complex environments so that an accurate understanding of their goals and the methods for attaining those goals is vital"; and a balanced scorecard is a means of measuring organizational performance as the translation of these organizational goals and activities (Kaplan & Norton, 1996a, p. 2).

This model is likely to follow the performance measurement matrix style of Osborne and Plastrik (2000) that starts the measurement process from goals as the achievement target of a policy outcome. However, further analyses of this policy outcome can be flexibly connected with either input or output instead of systematically as prescribed in the Osborne and Plastrik model.

Having an end outcome or organizational goals in the first place is related to this study's purpose to evaluate whether or not and to what extent organizations run their activities in line with their goals (Osborne & Plastrik, 2000, pp. 247-71). This study also agrees that results of measuring performance may only indicate whether or not an enterprise is managing its performance in the direction of its sustainability goals (Elkington, 1997, p. 94).

Thirdly, the model selects several essential elements in performance measurement including effectiveness and efficiency, accountability and control, internal and external stakeholders. Effectiveness and efficiency measures are related to the organizational performance in the past, the present, and the future. An efficiency measure is more measurable or more simply quantified, while an effectiveness measure is less so, as explained later. Accountability should be a shared responsibility between the local public enterprise, the local government and the local society. The local public enterprise management and the local government can be considered as the internal stakeholders who are responsible to produce and report performance information about

their local public enterprises to the local society or citizens as their external stakeholders. This performance information should be made publicly accessible for the citizens as the electorates who elect politicians in the local governing positions. These electorates as the external stakeholders individually or organizationally should be given a legitimated right for controlling performances of local governmental institutions including the local public enterprises.

II. 5. Explaining Performance Indicators and Measures for Public Accountability

The meanings of 'performance measure' and 'performance indicator' are often mixed up. A 'performance indicator', as adopted from the International City/Council Management Association by Hatry (1999, p. 13), is defined as 'a specific numerical measurement for each aspect of performance (e.g., output and outcome) under consideration'. Similarly, the International Water Association (Alegre et al., 2000, p. 3) defines a 'performance indicator' as 'a quantitative measure of a particular aspect of the undertaking's performance or standard of service'. The two are effectively slightly different wordings of the same definition for a performance indicator explicitly as a quantitative measure.

However, according to Ball (Ball, 1998, pp. 55-56) this definition is actually of a 'performance measure' rather than a 'performance indicator'. To him a performance indicator is just an indication of performance; while a performance measure is a precise measure of performance. Thus, a performance measure is a particular version of a performance indicator.

In physical science, a precise measure is obligatory, but in the social sciences a precise measure of certain performance is often not feasible or justified. In this case study, water quality has some precise characteristics that have been well established

and accepted internationally and considered as measurable on a precise scale. But, other criteria and standards, including financial ratios as one of the most quantified aspects in an organization, generally are only indications of performance or performance indicators with which the organization is evaluated as being relatively 'close to' or 'far from' a certain performance standard.

In this case study 'performance indicator' and 'performance measure' are treated as having the same meaning, to indicate performance for measuring progress. A water quality standard, for example, contains bacteria, chemical and physical indicators. The bacteria and chemical indicators are measured quantitatively but the water physical indicators are evaluated qualitatively, in terms of the aggregated opinion of stakeholders on the water clarity, color, smell and taste. In this study, a quantitative measure is only the choice when the indicator can be quantified.

Mostly quantitative indicators are employed in measurements of outcomes, including impacts (effectiveness). Opinion in the society can be evaluated quantitatively or qualitatively as an indicator of outcomes. In this study one indicator of collective opinion about water service performance from water users was quantitatively calculated from responses to a questionnaire. But other opinions about this performance were gathered from water users through open questions in interviews and were evaluated and aggregated qualitatively. A narrative story can reveal and explain interconnections among various variables. Qualitative information often enriches the explanation of quantitative measures. So in this study both quantitative and qualitative information is used systemically in describing performance measurement.

Recognising the context of qualitative information is essential to this study, because performance indicators are just a means and need to be explained. A performance indicator is not a 'hands off' instrument, and only provides information

about performance (Carter, 1989, p. 209). They only function as a tin opener; it is then the task of analysts to put meaning on what is inside. The information provided by a performance indicator cannot be used without further explanation. People are still needed to analyze and use performance indicators for organizational improvement, because performance indicators by themselves do not directly improve organizational performance. As Reid (2000, p. 1) mentions, the function of performance indicators is to link between strategic issues, which are the main concern of policy makers, and operational matters, the main concern of those who implement them. In this case, performance indicators can be considered as organizational tools to make sure those decision-makings and goals being well translated and implemented at operational levels.

The same situation in reporting performance indicators in private businesses also apply to the public sector where "performance information can inform or perhaps guide decision making and accountability, but it can not direct and should not replace decision making and accountability" (Mayne & Goni, 1997, p. 17). Decision-makers and society should critically analyze performance information, and creatively use it for accountability. However, the performance information system is also crucial for supporting situation that can supply good information for citizens. This model of performance measurement system is an alternative for bridging the gap and its model implementation needs supports administratively and legally. The quality of indicators made available is also essential as Jackson (cited by Ball, 1998, pp. 56-57) states criteria for performance indicators: consistency, comparability, clarity, controllability, contingency, comprehensive, bounded, relevant and feasible.

There are some valid reasons for an organization to be not totally accountable for its performance, since it has incomplete control over some performances which are

measured and show up in particular performance indicators. However, several aspects should be managed and not accepted as valid reasons for an organization not performing well. As Carter (1989, p. 209) says, an organization may not perform well because of some factors: unclear performance ownership; ambiguous goals; unsupported management styles; insufficient information system; uncontrolled inter-governmental relationship; and unbalanced relationships between professionals and administrators. These should not be acceptable reasons.

Furthermore, in performance reporting a large number of performance indicators may be reported but the performance information they provide may not cover indicators needed for evaluating social and environmental goals. The dilemma is that collecting and reporting each item of performance information normally has a cost but not all stakeholders are interested in all of the same information, with perhaps even some preferring they or others not know about particular information. In the case of water supply service provision, many performance indicators have been developed by water institutions which use them to serve their own measurement intentions, not necessarily representing wider society interests in evaluating social and environmental justice.

II. 6. Developing Performance Indicators of Water Supply Service for Social and Environmental Justice Concerns

In this section, two Outcome Performance Indicator Webs for evaluating service performance problems of water supply will be developed, based on the basic model of

an Outcome Performance Measurement Web, as previously described in Diagram II.1 and subsequent discussion.

Performance indicators in the water supply sector have been developed for various purposes. Four sets of performance indicators are presented in Table II.2 below. Two are from international institutions; the International Water Association (2000) and the World Bank (2002). The other two are from national institutions; the Indonesian Home Affairs Department (IHAD, 1999) and the Indonesian Drinking Water Supply Local Enterprise Association (PERPAMSI, 2003a) [45] . The Indonesian IHAD performance measurement system has been applied regularly to 280 PDAMs since 2000. The other Indonesian system has been developed by PERPAMSI and published in 2003, but not been applied nationally.

As can be seen, only a small number of performance indicators from the four institutions provide information that can be used to evaluate social equity (IHAD 11, 12, 13, 18; PERPAMSI KPI 4, KPI 5, KPI 6, KPI 8, KPI 9, SPI 8; World Bank 1, 2, 15, 16, 20, 22; and IWA 11, 12, 15, 16, 17, 18) and environmental concerns (World Bank 17). These indicators are still too general and need additional indicators or further information if an analysis of measurements on the indicators is to be effective in evaluating social and environmental outcomes.

[45] Persatuan Perusahaan Air Minum Seluruh Indonesia

Table II.2: Performance Indicators for Water and Sewerage Supply Service in Four Institutions

IHAD	PERPAMSI[46]	WORLD BANK	INTERNATIONAL WATER ASSOCIATION
FINANCIAL INDICATORS	FINANCIAL INDICATORS	1 Water Coverage	WATER RESOURCE INDICATOR
1 Return on Net Fixed Assets	KPI 1 Operating Cost Ratio	2 Sewerage Coverage	1 Inefficiency of use of water resources
2 Return on Selling	KPI 2 Debt Service Ratio	3 Water Production	PERSONNEL INDICATOR
3 Liquidates	KPI 3 Current Ratio	4 Water Consumption	2 Employees per connection,
4 Debt Equity Ratio	KPI 4 Tariff Revision	5 Metered Water Consumption	PHYSICAL INDICATOR
5 Solvability/Solvency	SPI 1 Total Cost Recovery	6 Uncounted-for Water	3 Treatment utilisation
6 Operating Ratio	SPI 2 Return on Net Fixed Assets	7 Proportion of connections metered	OPERATIONAL INDICATORS
7 Return on Long Debt Ratio	SPI 3 Unit Operational Costs	8 Proportion of water sold metered	4 Mains rehabilitation
8 Net Fixed Asset Ratio on Water Income	SPI 4 Labor Costs Ratio	9 Pipe Breaks	5 Service connection rehabilitation
9 Debt collection period	SPI 5 Energy Costs Ratio	10 Sewerage Blockages	6 Water losses & real losses
10 Effectiveness of Water Charge Collection	SPI 6 Average Water Charges	11 Unit Operational cost	7 Main failures
OPERATIONAL INDICATORS	SPI 7 Collection Period	12 Staff/'000 conn. or water pop. served	8 Service connection failures
11 Coverage	SPI 8 Ratio of Social Charges	13 Labor Costs Ratio	9 Customer reading efficiency
12 Drinking Water Quality	SPI 9 Ratio of Commercial/ Industrial Charges	14 Contract out service costs per op. costs	10 Residential customer reading efficiency
13 Continuity	SPI 10 Debt Equity Ratio	15 Continuity of Service	11Water quality tests performed
14 Water Production Productivity	SPI 11 Average Age of Tangible Assets	16 Complaints W&S Services	QUALITY SERVICE INDICATORS
15 Uncounted-for Water	CUSTOMER INDICATORS	17 Wastewater treatment	12 Household and business supply coverage building
16 Metering service	KPI 5 Customer Satisfaction	18 Average Water Charges	13 Supply coverage
17 New Connections	KPI 6 Coverage	19 Total revenue per pop served/GDP	14 Population coverage
18 Ability to handle complaints	SPI 12 Unused Capacity	20 Residential Fixed Charge	15 Public taps and standpipes
19 Service point centre/customer service unit	SPI 13 Service Area Ratio	21 Ratio of Commercial & Industrial Charges	: (distance to households & water consumed)
20 Connection ratio per 1000 Employees	SPI 14 Water Meter Changing	22 Connection Charge	16 Continuity of supply
ADMINISTRATIVE INDICATORS	API 17 Payment Ability	23 Collection Period	17 Quality of supplied water
21 Corporate Plan	TECHNICAL INDICATORS	24 Working Ratio	18 Service complaints & billing complaints
22 Org Job and Distribution	KPI 7 Uncounted-for Water	25 Debt Service Ratio	FINANCIAL INDICATORS
23 Standard Operational Procedure	KPI 8 Water Quality Index	26 Investment	19 Unit running costs
24 Built Drawing	KPI 9 Continuity	27 Net Fixed Assets/capita	20 Unit capital costs
25 Performance Valuation Standard	SPI 15 Operating Primer Meter		21 Average water charges for direct consumption
26 Budget and Work Plan	SPI16 Pipe Rehabilitation		22 Average Water charges for exported water
27 Internal Report	HUMAN RESOURCE INDICATORS		23 Total cost coverage ratio
28 External Report	KPI 10 Employee Satisfaction		24 Operating cost coverage
29 Independent Auditor Opinion	SPI 18 Connection Ratio per Employee		25 Contribution of internal sources to investment current ratio
30 Action on last year evaluation feedback	SPI 19 Training Cost		

[46]KPI = Key Performance Indicator and SPI = Supplementary Performance Indicator

For example, none of these price indicator: tariff revisions (KPI 4) and ratio of social charges directly relate to 'poor households'. Also, a larger number of performance indicators do not automatically provide the comprehensive information wanted for particular evaluations, and collecting and reporting many indicators can be costly. IWA, for example, besides the 26 indicators listed here, suggests the collection of an additional 106 performance indicators (Alegre et al., 2000, p. 7).

These sets of indicators were developed to measure performance for certain purposes as intended by these institutions. Unfortunately, the four performance indicator systems do not fully provide a set of indicators that can be used to adequately evaluate social and environmental outcomes of a water supply service as intended by this study. As demonstrated in the further analyses, a combination of fewer indicators can be used to measure and indicate whether or not a water supply enterprise is working in the direction of increasing social equity and environmental sustainability.[47] These four performance indicator models will be critiqued, and a new performance indicator system developed for improving the current system.

A first critique is addressed to their listed financial indicators or the input side of a water supply company. Many financial indicators have been included in the four systems covering areas such as profitability, liability and leverage, and are these are useful for various measurement purposes. However, a focus in this study is evaluating cost efficiency. One of the guiding principles from the WHO Working Group on Cost Recovery is that costs on the investment and recurrent side should be controlled by

[47] It can be considered as the implementation of a cost effectiveness principle in which a set of a few indicators is used for evaluating social and environmental goals.

investing effectively, selecting technology appropriately, and by utilizing facilities efficiently (WHO, 1994, p. 7).[48]

However, the problem for external stakeholders is how to know that the agencies make the best use of their budget and cost allocation. This study investigates how efficient the enterprise is. An efficiency indicator employed in the four models above is 'Operating cost ratio', defined as the ratio of annual revenue to annual running costs (Alegre et al., 2000, p. 53; IHAD, 1999, p. 5). An OCR is an indicator to measure how efficiently a water supply enterprise is using its resources to conduct its operational activities (IHAD, 1999, p. 5). However, the OCR is not enough for detecting cost inefficiency problems but is more meaningful as an indicator for this if two additional indicators, which are not included in the four performance indicator systems, are recruited. These indicators are a ratio of 'direct' to 'indirect' costs, and a ratio of 'other unidentified costs' to 'operating cost'. Horngren states that "the direct costs of a cost object are those costs that can be traced to the cost object in an economically feasible way. For the indirect costs, it has a reverse meaning from the definition above. Economically feasible means cost-effective that is, the benefits exceed the costs" (Horngren, Foster, Datar, Black, & Gray, 1996, p. 28).

A water supply company, as an infrastructure business, commonly spends more on its direct costs, costs that are related to its production and distribution sector such as for water pipe rehabilitation and maintenance. The indirect costs are likely to be kept relatively low. Considering the usual monopoly rights in the water supply business sector,

[48] The other principles are; greater autonomy of water supply agencies; focus on efficiency; customer consultation and good public relations; based on willingness to pay; liquidity–maintenance; a sound financial position; improvement of information systems; and pricing consistent with economic cost (WHO, 1994, pp. 7-8).

a water enterprise spends less of its budget on indirect costs, those not directly related to production and distribution such as for marketing, due to the relatively absence of market rivalries between water supply providers.

A curious element of costs is the so-called 'Other unidentified costs'. Ideally spending classified under this heading is spelled out, and must be kept at a minimal level. A tolerable standard of 'Other unidentified costs' for Indonesian PDAMs has not yet been specified in the public legislation, that is topic for local legislatures to raise with the central government or take up themselves. This case study investigated whether costs involved in corrupt practices are hidden in this cost category. As mentioned above, an indicator combining the operating cost ratio with the 'direct costs': 'indirect costs' and 'other unidentified costs': 'operating costs' ratios can be used to indicate whether or not a public enterprise performance's direction is in line with its cost efficiency mission.

Interconnections of cost efficiency indicators with other indicators of inputs, outputs and intermediate outcomes and of end outcomes or impacts are mentioned in Table II.3. Cost inefficiency (input column) reduces financial and investment capacity (also input) and, as a further consequence of this condition, the decision makers may increase tariffs and decide on no tariff subsidy for the poor (output column). In addition, a reduction of financial capacity (input) also reduces the budgeting capacity to maintain and improve infrastructures (input), and this condition causes the enterprise to not perform maximally or the service performance decreases (output column). Both a low service performance and no subsidized tariff (output and intermediate outcome side) are failures in achieving public goal targets, especially in the enterprise's social missions

(end outcome/impact). A lesson from this failure (impact) can be a feedback input to the making of financial or other decisions in the future (input).

Table II.3: Some Examples of Interconnections among Indicators as Inputs, Outputs, Intermediate Outcomes and End-Outcomes/Impacts

Input	Output - Intermediate Outcome	End Outcome/Impact and as a feedback
Cost inefficiency	Tariff increased and No tariff subsidy for the poor	
Decreasing financial and investment capacity	A low service performance on indicators of water quantity, quality, pressure and continuity	Failures in balancing economic, social, environmental goals and missions, shown in their indicators
As inputs to other inputs, outputs and outcomes	As intermediate outcomes to end-outcomes, and as inputs to other inputs	As impact of outputs and inputs, and as feedback input to other inputs

Thus, interconnections between indicators do not operate only from one side of organizational aspects to the other, but can also happen within one side. These performance indicators are interconnected in iterative processes. The examples of interconnections among performance indicators above show that an indicator is considered as a dynamic entity rather than a static one as the normal way of systems thinking appears to see the world (Senge, 1990, p. 68). An indicator has a multiple function including such as operating as an input, output/intermediate outcome or impact for other indicators.

A second critique of the four lists of indicators is about the absence of a subsidized tariff for poor households in them. 'Tariff' is not among the indicators in the

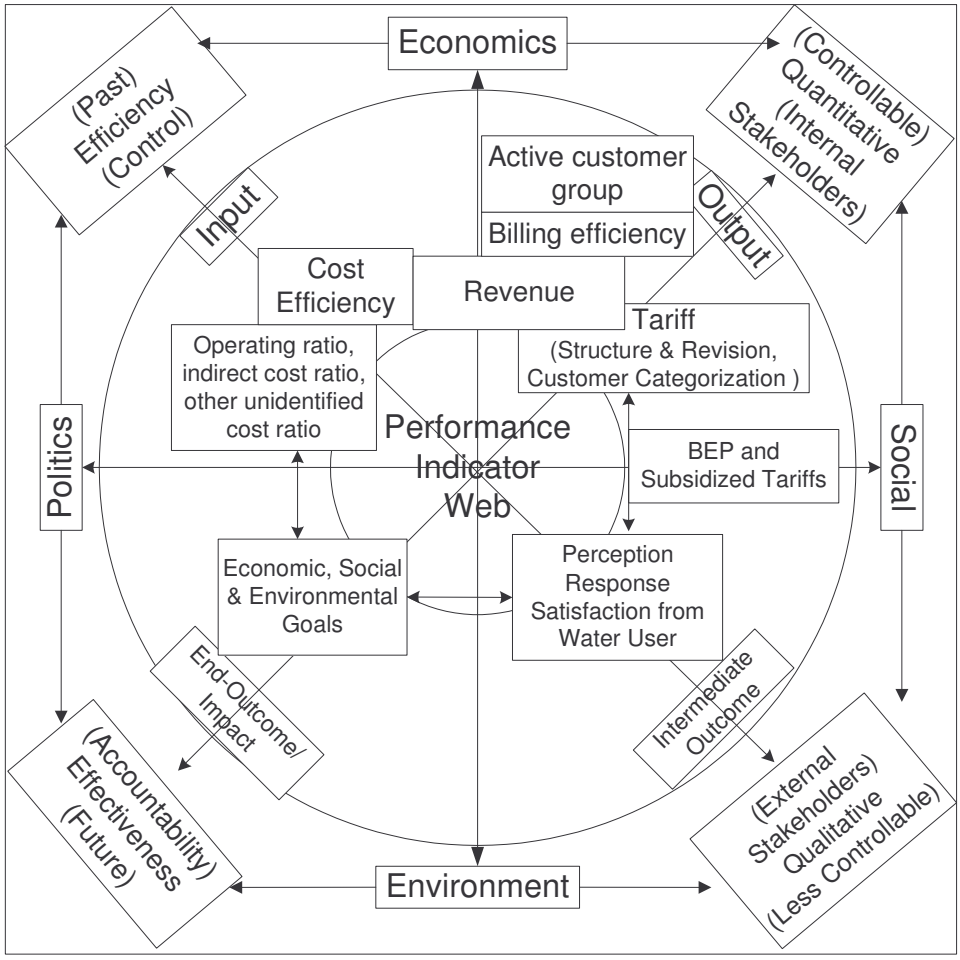
IHAD, WB or IWA lists in Table II.2 although the achievement of social justice goal can be evaluated through tariff indicators. In the PERPAMSI indicator system three indicators are related to tariff: Tariff revision (KPI 4), Ratio of social charges (SPI 8) and Ratio of commercial/industrial charges (SPI 9). But these indicators are still too general. A ratio of social charge, for example, does not inform whether or not any social tariff level is under the subsidy level or break-even point price. A social tariff can be interpreted by water supply enterprises as a lower profit tariff rather than a subsidized tariff. So a crucial thing is to know about what is the break-even point (BEP) tariff that is used in the indicator.

A BEP is commonly used in a private firm for a new product to determine how many products must be sold to cover the minimum costs for making them. A break-even point is a condition of "the break-even level of sales dollars that corresponds to the break-even quantity of output" (Petty et al., 1996, p. 408). In the case of a water supply public enterprise, a BEP is used to decide a basic tariff that can cover the minimum cost for producing and distributing the water supply (Diagram II.2).

In addition, a 'social tariff' in the context of Indonesian PDAMs is related to social customer categories such as social and religious institutions. Poor households are not under this category; they are grouped into the various Household Customer Tariffs (see details in chapter III). So it is impossible to identify whether or not poor households have been subsidized if the information available is based on only the three tariff indicators on the PERPAMSI list. The social justice of a tariff policy for the poor could be evaluated by providing two additional indicators: a BEP tariff and social tariffs based on customer categorization. If a high tariff is set up for commercial and industrial

customers in response to which they, along with customers dissatisfied with the water supply service and non-water supply customers, excessively use groundwater through wells this situation endangers the preservation of underground water resources (Diagram II.2).

Diagram II.2: Outcome Performance Indicator Web of Cost Efficiency and Water Price



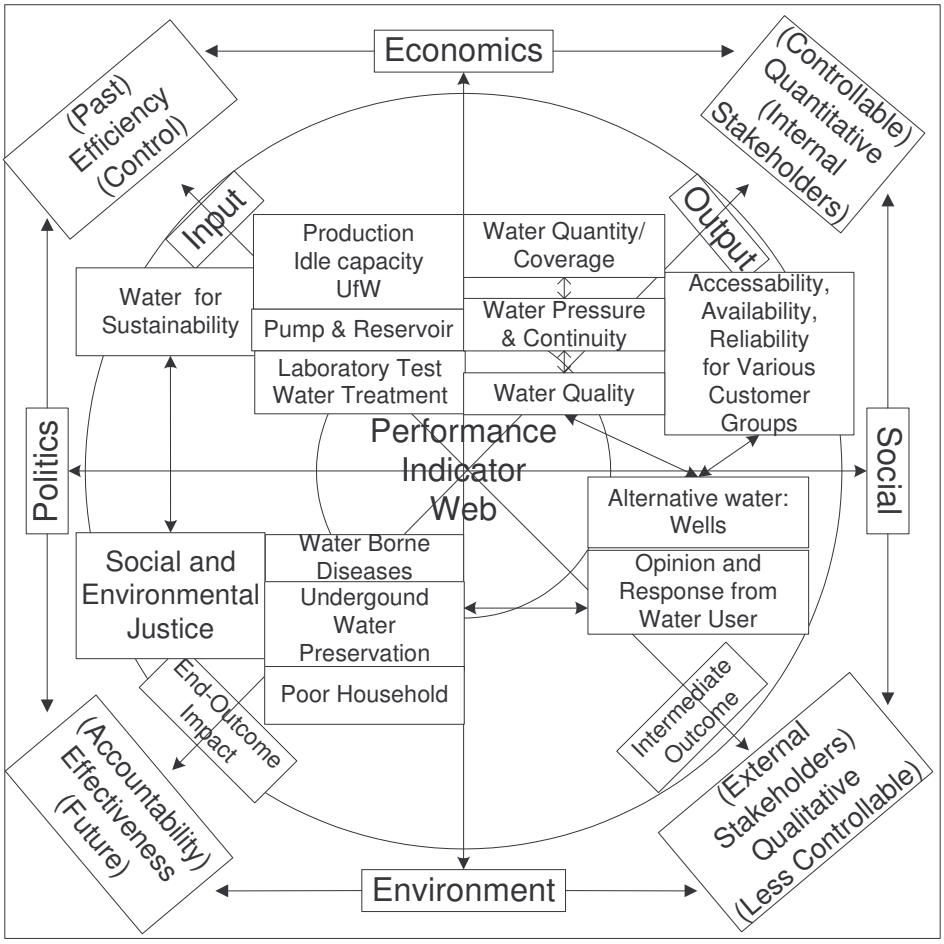
The third critique is about water quantity. A water coverage indicator is employed in the four indicator systems above. This indicator provides information about the proportion of inhabitants being served by the water supply service or people with access to piped water. This indicator is more useful if it is combined with information about water-borne diseases in various sub-areas (Diagram II.3). The water supply service performance can then be evaluated in terms of how far the service outcome affects the quality of life of people, especially public health.

Some people who have not been connected with piped water from the water supply company must consume water such as well water with a low water quality compared with piped water that is well protected and regularly monitored its quality. These people face a risky experience with water-borne diseases. So it might be that people in a sub-area which is served with a high level of the water supply service connections will be found to have a low case of water-borne diseases, and conversely, which would indicate a connection between water coverage level and public health concerns (Diagram II.3).

A water coverage indicator for Indonesian PDAMs is defined as the ratio between the total number of the population served by the water supply enterprise and the total population (IHAD, 1999, p. 7). A water coverage indicator placed on the output side in Diagram II.3 is related to the other three indicators on the input side; production capacity, idle capacity and uncounted-for water (UfW). A failure in reducing idle capacity and UfW can cause a reduction of water production, and fewer people can be covered with the piped water service (accessibility).

The fourth critique is about water pressure and continuity. IHAD (1999, p. 9) suggests that a continuity of water supply service flow 24 hours per day to customers and a high water pressure be the standard of water supply delivery. Water pressure and continuity alongside water coverage for water customers is preferably reported in more detailed information or broken down into various customer group categories (see Diagram II.3). This information would be useful to evaluate what types of customers receive a better or less service in terms of water availability and reliability.

Diagram II.3: Outcome Performance Indicator Web of Water Quantity, Quality, Continuity and Pressure



A low performance of water supply service provision can make water customers also use alternative water such as well water, as would some people that have not been served by being connected to piped water. As Johnston and Wood (2001, pp. 5-6) mention, consequences for the poor household due to a lack of access to an adequate and affordable water supply service include increased monetary costs in getting alternative water; increased time and physical effort needed in collecting water; reduced water consumption levels; increased health burdens; and economic costs in terms of lost productivity such as taking time off work due to illness.

Moreover, the environmental consequences due to uncontrollable uses of groundwater through wells include the degradation of groundwater reservation, as mentioned previously in the second critique. Johnstone and Wood (2001, p. 6) describe how the overuse of groundwater in the urban area in turn can affect the urban water users through reduced availability and increased pumping costs, and an environmental effect of land subsidence and saltwater intrusion. This would be an indication of the degradation of environmental quality.

The fifth critique is about water quality. It is preferable that sampling test results of water quality be made available for people who want to know about the quality of the water supplied to the society (see Diagram II.3 above). This condition could press water supply enterprises to perform well and to improve their services by producing and distributing quality water. The test results on piped water could be compared with the results for well water. Well water is generally lower quality than piped water that is well protected and controlled in the process of distribution. As discussed in the third critique above, some people who have not been served with piped water use well water. If cases of water-borne diseases are more frequently found in an area with a lower coverage or connection to piped water, this would be an indication that cases of water-borne diseases can be reduced by serving more people with piped water.

II. 7. Summary

Generally, progress in measuring public sector performance in Indonesia is still behind several developed countries such the UK, the USA, and Australia which have been nationalizing their outcome-based performance measurement through national

charters, legislation and institutional building. In Indonesia, performance measurement systems for Indonesian PDAMs have been developed, although tasks in measuring PDAM performance is still traditionally held by public auditors and reported only to governmental institutions and not publicly.

In the future, even if reports of public auditors on PDAM performance are published publicly and elements of society are given a legitimated right, such as in a public regulation, to access information about PDAM performance and to do their own evaluation of this concern, they will still have some difficulties in measuring the PDAM performance in terms of outcomes of the water supply's social and environmental goals. There are only a small number of social indicators, a lack of environmental indicators and a lack of a group of social and environmental indicators in the four performance measurements systems; IHAD, PERPAMSI, World Bank and IWA, which currently can be used to evaluate the outcomes of social and environmental goals of water supply provision. These organizations overall prioritize the evaluation of economic goals of water supply service performance rather than the social and environmental goals. As highlighted by several of the authors mentioned in this chapter, balancing between economic, social and environmental goals is the important thing to do.

In order to be better able to achieve such a balance this chapter has developed an Outcome Performance Measurement Web and then two Outcome Performance Indicator Webs. Interconnections among performance indicators of inputs, outputs, intermediate outcomes, and (end-outcome) impacts have been portrayed in Table II.3 and the diagrams of the two Outcome Performance Indicator Webs (Diagrams II.2 and II.3). Identifying these multiple indicator relationships requires a systemic approach in which iterative

cycle processes of interconnections among these indicators are evaluated. This exercise of outcome performance measurement can be considered as an accountability means for evaluating social equity and environmental justice concerns.

Evaluating interconnections among indicators at various levels requires multifaceted data and information from various stakeholders in the three desirable sectors of governance: the government, the enterprise and the society. Hence, it will be necessary to use mixed methods or a combination of qualitative and quantitative techniques in this study, as will be described in Chapter III.