

Impact Evaluation Study

on Public-Private Partnership

the case of Angat Water Supply Optimization Project
and
the Metropolitan Waterworks and Sewerage System

Republic of the Philippines

FINAL REPORT

July 2003

**UTCE Ltd.
Japan PFI Association**

Contents

Executive Summary

Acknowledgements

List of Acronyms and Abbreviations

1.	Introduction	1
1.1	Background	1
1.2	PPP in Public Utilities General	1
1.3	Water Supply Service and Waste Water Treatment (Sanitation) Service	4
1.4	Objective	11
1.5	Study Focus	12
1.6	Outline of this Report	12
2.	Framework and Methodologies of the Study	13
2.1	Study Framework	13
2.2	Data Collections and Fact Findings	16
3.	Provision and Process of PPP in Water and Sanitation Services in Metro Manila	19
3.1	Background	19
3.2	PPP in Philippines	20
3.3	Process of PPP	21
3.4	Initial Facilities Conditions in West and East Zone	23
3.5	Concession Agreement	24
4.	Comparative Analysis I ~Service-related Performance~	27
4.1	Service Coverage	27
4.2	Water Availability and Line Pressure	30
4.3	Quality of Water	31
4.4	Non-Revenue Water (NRW)	32
4.5	Staff Productivity	35
4.6	Sewerage and Sanitation	36
4.7	Tariff of Water Services	38
4.8	Tariff of Sewerage and Sanitation Services	39
4.9	Summary of Service-related Performance	40

5.	Comparative Analysis II	
	~Financial and Operational Performance~	42
5.1	Financial Performance of MWSS	42
5.2	Financial Performance of the Concessionaires	45
5.3	Capital Expenditures of MWSS and Concessionaires	49
5.4	Capital Investment Program to Expand and Modernize Water and Sanitation Services	50
5.5	Summary of Financial Performance	53
6.	People's Perception before and after PPP	57
6.1	Opinion Surveys	57
6.2	Summary of Customers Perception	58
6.3	Perception Trend before Privatization	58
6.4	Quality of Water	58
6.5	Water Availability	60
6.6	Satisfaction with the Water Service in Respondent's Place	61
6.7	Consumed and Paid per Month	62
6.8	Satisfaction with Concessionaires' Price of Water	63
7.	Special Programs for the Urban Poor	64
7.1	The Water Improvement Program for Depressed Area (WIPDA) of the MWSS	64
7.2	The Manila Water's <i>Tubig para sa Barangay</i> Program	65
7.3	The <i>Bayan Tubig</i> of MWSI	68
7.4	Impact on the Slum Dwellers and Non-revenue Water	69
7.5	Forgotten Sanitation	69
8.	Profile of Concessionaires and the "Residual" MWSS	70
8.1	Impact of the Privatization on Human Resources in MWSS	70
8.2	MWSI	70
8.3	MWCI	74
8.4	Role of International Operators	77
8.5	Capacity of the "Residual" MWSS in Managing the Privatized Water Utility	78
9.	Role of Donors Agencies	80
9.1	World Bank	80
9.2	International Finance Corporation (IFC)	81
9.3	Asian Development Bank (ADB)	81
9.4	Capacity Building for the Regulatory Office of MWSS	82
9.5	Japan Bank for International Cooperation (JBIC)	83
9.6	Role of Donors in a Privatized Regime	84

10.	Regulatory Mechanism	85
10.1	Importance of the Contract	85
10.2	Competition	86
10.3	Competence of the Public Sector, Especially the Regulator	87
10.4	MWSS Regulatory Office	89
10.5	Dispute and Arbitration	92
10.6	Notice of Termination of the MWSI Concession	95
11.	Tariff Setting and Rate Adjustment	97
11.1	Tariff Structure in the Concession Agreement	97
11.2	Rate Adjustment Mechanism in Amendment I	98
11.3	Rate Adjustment	102
11.4	Rate Rebasing	102
12.	Social Dimension of the Water Supply Privatization	105
12.1	Goal of Development and the Way to Achieve it	105
12.2	Importance of the Local Cultural Setting	105
12.3	Social Organization of the Water Providers	106
12.4	Social Roots of NRW	107
13.	Conclusions and Recommendations	110
13.1	Conclusions	110
13.2	Recommendations	114

Executive Summary

(1) Background and Objective

In the last decade, private sector participation in public utilities has globally significantly increased. Privatization of water supply and sanitation services in Metro Manila is the largest one in the world. Study of its impact on the national budget and lives of Manila inhabitants uncovers strong and weak points of the arrangement and its implementation process. When the role of Philippine local conditions in the project is well understood some general conclusions useful for future cases can be suggested. The objective of the study is to clarify the impact of Public Private Partnership (PPP) in MWSS case on quality of services and financial situation of the government, and to analyze the arrangement of PPP scheme affecting the impact, which will lead recommendations for future projects in other cities in the developing world.

(2) Methodology

Focus of the evaluation is on the comparison of financial and service situation of the whole system and its parts within a five-year period before (1992-1996) and after the privatization (1997-2001). Emphasis has been placed on primary data collection and interviews with concerned agencies. Where the primary data were not available, relevant documents were analyzed.

(3) Fact Findings

The greatest achievement of the private operators is expansion of their service. During the last five years, the number of water connections has increased by 30%, a feat that would have taken MWSS 30 years to do. At the same time, the average daily water availability has increased from 17 to 21 hours. On the other hand, sewerage coverage is still far below promised levels and NRW remains to be the majority of the water produced.

Despite the common apprehension before 1997, the concessionaires have spent more effort on bringing water to poor communities than government had used to, which resulted in dramatic water coverage increase.

An increasing reliance of MWSS on ODA was probably the main reason for privatization. The Asian Financial Crisis hit hard MWSI, which assumed 90% of MWSS loans. As Peso suddenly devalued, these loans effectively doubled. This, together with its operational inefficiency and other aspects, resulted in MWSI's financial instability and subsequently decision of its contract termination. The other concessionaire, MWCI, has been posting positive gains from its operations, but its contribution to relieve the government's financial burden is rather small.

The majority of MWSS employee did get absorbed by the two private firms. Management strategy and capacity building in the firms greatly affected operational efficiency and job satisfaction of the employee.

According to public opinion surveys, the customers are more satisfied with the private service but they find water tariffs to be high. The tariffs after privatization dropped but were readjusted after the sudden currency devaluation. The transfer of MWSS operations to MWSI and MWCI resulted only in negligible dislocation of employees.

(4) **Lessons Learned**

Lessons learned from MWSS privatization through 5 years experiences are as follows.

a) preparation and bidding process

It was reported that the privatization process lacked a good communication for confirming the mutual expectation before the contract. The government should have explained that future investment entailed cost. It only emphasized lower tariffs with privatization to get approval of public. But even lower tariffs were only true at the onset.

b) concession agreement

Tariff rate adjustment. The Concession Agreement rightly recognizes the difference of actual financial, physical and technical conditions during the life of the concession and therefore allows for mechanisms that enable the concessions to adjust the tariffs accordingly. These adjustments are to follow inflation, foreign exchange fluctuations and other unforeseen developments. For that purpose, Amendment No.1 of the contract was added to recover all cost during the concession's life and forex fluctuations immediately. Rate rebasing every 5 years has also important role for that purpose.

Concession fee. The sharing of concession fee for debt services is 90% and 10% for MWSI and MWCI respectively. The impact of forex fluctuation on each concessionaire is almost proportional to this ratio. MWSI has greatly suffered from the Asian financial crisis. And for some project the ratio of debt sharing is not consistent with the ratio of the benefit from the project. There are 2 kinds of problems; how concession fee for debt services should be allocated to the concessionaires and how the concession fee should be linked with the debt services.

Lack of information on asset conditions. Information of asset conditions has important role for the management strategy in the business of concessionaires. Especially for planning the capex projects, it is crucial to have the correct information on asset conditions. Initial asset conditions were, however, not fully informed to the concessionaires, which affected the plan of rehabilitation projects of pipeline network.

Unclear responsibility of future development of raw water resources. The responsibility of raw water development for future demand is vague in the concession agreement. And on-going projects affected the performance of the concessionaires. On the other hand on-going projects were affected by the splitting of area after PPP. It is important to clarify the responsibility of investment during the concession term, considering on-going projects.

b) regulatory framework

Regulatory framework is important for balancing the interests of public and private. Current position of regulatory office is complicated, because it is organized under the board of MWSS and its operating budget comes from the concessionaire as a part of concession fee. Independency of the regulatory office should be secured for that purpose, which will lead to the strong control to the both sides.

c) MWSI's notice of termination

MWSI's notice of termination is one of the biggest events beyond the expectation. There are probably many reasons behind this event. 3 main reasons can be raised for explaining this event. Firstly, the Asian financial crisis attacked cash flow of MWSI, which has 90% of debt services of MWSS including foreign payable loan. Secondly, inadequate information provided by MWSS on asset conditions affected the projects of MWSI, which has to maintain relatively old facilities in

the area. Lastly, it is because of the company management, which resulted in inefficiency of operation and too optimistic financing strategy.

d) urban poor projects

The urban poor projects by both concessionaires have brought about the great success despite that there is no description in the concession agreement. Based on the experience, consumption increases in poor areas if service is good and collection rate is relatively high, though middle income segment is more delinquent. For delivering the service to the urban poor, community building and local education on importance of water were key issues before installing the pipeline networks.

From the viewpoint of water supply and sanitation service as a public utility, it is important to deliver a safe, environmentally friendly and continuous service to the whole public. This concept is not changed even after a PPP scheme is introduced. National government as a representative of the public has a great responsibility for sustainability of the whole system.

(5) Recommendations

Key issues for applying the PPP scheme are described below based on the study of MWSS privatization.

Concession agreement

It is suggested that for securing the adequacy, efficiency, continuity and/or legal stability in the concession agreement, it is necessary to avoid ambiguous expression but to use explicit and plain expressions in the agreement, which would be inevitably based on concrete dealings through the contract between the public sector and the concessionaire.

For the PPP arrangement to be lasting and successful, it is very important that the legal agreement is crystal clear in terms of the allocation of responsibilities, the targets that need to be attained, the penalties that are to be imposed if these are not achieved, and even perhaps, some incentives for good performance.

The allocation of concession fee is also an important issue that greatly affects the financial performance of the concessionaires. In the case of MWSS, it is related to the allocation of debt services of MWSS loan which was located in each concession area. There are another alternatives for allocating the fee, such as off-take, production volume, billed volume or target volume of water, which can resolve the problems of foreign currency fluctuation in debt services.

Tariff structure and adjustment mechanism

Price regulations are most important among others, which is left to regulators' discretion of which decision making is to be made in accordance with the stipulations of the concession contract. Prices should be decided so that reasonable costs under competent management plus a reasonable return on operations are equal to gross income, however, it was not functioned at implementation stages because of problems of the regulator side concerning grasping the accurate and adequate cost and reasonable rate of return for long-term capital investment with a mind of continuity.

Regulatory framework and monitoring the performance

The regulatory body must be truly independent and has the capability to respond to changing situations facing the private sector interests involved in the PPP scheme. And it is important to monitor the performance of the concessionaires for controlling the PPP scheme. Performance

indicators proposed by Japanese Group to ISO/TC 224, where quality standard and business indicators for water and sanitation services are discussed, are also useful. It consists of 10 categories, such as raw water, employee, physical indicators of facilities, operational indicators, service-related performance, financial performance, managerial index for operation, impact to the environment, stability of water supply system and risk management. A monitoring of customer satisfaction needs to be carried out in a regular fashion and preferably by the regulatory body.

Transparency in all transactions is very essential. Communicating to the public at large about key decisions is also very important. The consumers also need to be continuously informed about how the PPP scheme works, what their responsibilities are if they would like to continue to enjoy the benefits of efficient water service delivery. They should also be informed about the need to regard water as a very scarce commodity.

Human resources and capacity building

The role of the original staff of MWSS in the success of the concessions needs to be highlighted. In one instance, the former employees of the MWSS assumed important responsibilities in the operations of the concession. Management of concessionaires affects the performance of water supply services. Capacity building of concessionaires should be taken into account when selecting the PPP scheme and building up regulatory framework.

Consideration to the urban poor

The reaching of a water supply to the urban poor is important with viewpoints of public welfare and reduction of NRW. Community-based activity including public education is effective for building up the new network to the urban poor.

For the donors agencies

It is important to share the information on concession arrangement and on-going projects within the stakeholders before and during the concession term. Donors agencies may have the significant role for water resources development with the guarantee of national government and for the technical assistance of capacity building and delivered services.

Further studies

The scope of the study and time span for the review is limited. The following further studies are, therefore, needed to reach the final goals that general framework of PPP scheme for a water supply service is proposed.

- a) Periodical and continuous assessment through the concession period
- b) Comparative analysis with the cases of other countries
- c) Socio-economic analysis and social background including corporate culture
- d) General framework of PPP scheme considering local characteristics

Acknowledgements

The Impact Evaluation Study on Public-Private Partnership was prepared by the UTCE Ltd. and the Japan PFI association for the Japan Bank for International Cooperation, which was funding the whole study.

This report is the result of a team effort led by Kazumasa Ozawa, who had primary responsibility for the whole project and whose ideas brought the report into its final form. From Japan-based part of the team Toru Hashimoto, with his strong personal commitment, successfully initiated the study. Kazuo Ueda made valued contributions to the report on PPP arrangements around the world. Petr Matous and Wataru Kawabata were responsible for social impacts evaluation of the privatization.

The Philippine-based part of the team played an essential role in creation of this report. Tony de Vera gathered and analyzed necessary data for the technically oriented sections and Bernie Abis dedicated his talent to the financial analysis of the whole scheme. He was kindly assisted by Rosanna Martin, who in addition to that, provided a vital organizational support during research visits of the international team members. Christopher T. Pablo played a key role in the preparation of this report. Many thanks go to him for organization of the local part of the team and putting together large parts of the report.

This study would have never realized without kindness of our informants Nieves L. Osorio and Joji Cruz (DOF); Librado F. Quitariano (NEDA); Macra Cruz and Leonor C. Cleofas (MWSS); Ed Santos (Regulatory Office); Perry Rivera (MWCI); Oscar Sevilla (MWSI); and their colleagues. All of them, even at short notice, gave off their time and provided us with invaluable information during the study. Both concessionaires brought the team to the depressed parts of Metro Manila to show the success of the pro-poor projects. Management of MWSI spent their time providing us with helpful insights even during the busy days of their arbitration process. MWCI shared with the team even yet unpublished reports. We are intellectually indebted to Felipe Medalla (UP) for his precious inputs in the beginning of the research and for his valuable comments on an interim report.

Special thanks belong to Yayoi Tanaka, Hirotaka Sekiguchi, Yoshihiro Kumagai, Kenichi Yamamoto, Motonori Tsuno and Takeo Matsuzawa from the Japan Bank for International Cooperation. In addition to support of the whole study, their invitation to 3rd World Water Forum in Kyoto helped us to get necessary professional reflections in the middle of our work.

July 2003
The Study Team

List of Acronyms and Abbreviations

ADB	Asian Development Bank
AEPA	Accelerated Extraordinary Price Adjustment
AWSOP	Angat Water Supply Optimization Project
BOT	Built-operate-transfer
CA	Concession Agreement
CERA	Currency Exchange Rate Adjustment
CPI	Consumer Price Index
CSC	Customer Service Comitee
CWSP	Cavite Water Supply Project
DA	Deputy Administrator
DENR	Department of Environment and Natural Resources
DOF	Department of Finance
DOH	Department of Health
DPWH	Department of Public Works and Highways
DWI	Drinking Water Inspectorate
DZ	Demand Zone
EPA	Extraordinary Price Adjustment
IFC	International Finance Corporation
JBIC	Japan Bank for International Cooperation
JBIC	Japan Bank for International Cooperation
MLD	Million liters per day
MNEWSP	Manila Northeast Water Supply Project
MSWDP	Manila South Water District Project
MWCI	Manila Water
MWSI	Maynilad Water Services
MWSP3	The Third Manila Water Supply Project
MWSPIII	Manila Water Supply Project III
MWSRPII	Manila Water Supply Rehabilitation Project II
MWSS	Metropolitan Waterworks and Sewerage System
NAWASA	National Waterworks and Sewerage Administrator
NEDA	National Economic and Development Authority
NRW	Non-revenue water
NWRB	National Water Regulatory Board
ODA	Official Development Assistance
Ofwat	Office of Water Services
ONCC	Ofwat National Customer Council
P(hP)	Philippine Peso
PFI	Public Finance Initiative
PPP	Public-Private Partnership
RO	Regulatory Office
RPWSP	Rizal Province Water Supply Project
SDA	Senior Deputy Administrator
SWS	Social Weather Station
UATP	Umiray-Angat Transbasin Project
US\$	American Dollar
UTCE	University of Tokyo Civil Engineering
WB	World Bank
WCA	Water Crisis Act
WTP	Wastewater treatment plant

1. Introduction

1.1 Background

In the last decade, the private sector participation in infrastructure projects has greatly increased in both developing and developed countries. There is a wide range of public-private partnership (PPP) arrangements; the appropriate one should be selected in each sector according to the socio-economical background of each country. By studying an existing scheme, we have been seeking a better way how to introduce PPP to infrastructure services in future.

Japan Bank for International Cooperation (JBIC) financially supported the Philippine government through the Angat Water Supply Optimization Project to meet increasing demand for potable water in Metro Manila. Aqueducts from the Angat dam to La Mesa Treatment Plant were constructed and other projects were carried out (Manila Water Supply Rehabilitation Projects, Metro Manila Water Distribution Project, and Manila Water Supply Project) to meet the raising water demand. In 1997, the responsibility for operation and maintenance of the water supply and sewerage system were taken over from the Metropolitan Waterworks and Sewerage System (MWSS) by two concessionaires.

The UTCE and The Japan PFI Association contracted by JBIC have conducted an impact evaluation research on the MWSS PPP in Metro Manila. In the present study, the privatization of the MWSS functions, which is considered to be the largest one in the world, is examined and lessons learnt are presented.

1.2 PPP in Public Utilities General

(1) Concept of Public Utilities

Infrastructure services, or public utilities, provide indispensable services to the public under monopoly conditions with governmental regulation of prices, profits, and service quality. Typical examples are electricity, gas, water and telephone supplies.

Definition of public utilities is not clear, depending on governmental policy, economic situation, social and market situation, which vary and from country to country. One attribute of public utilities, however, is always present – public interest.

Because of their of importance, non-substitutability, and moreover often monopoly characteristics, public utilities cannot be regulated by market alone. In general, they are almost free from business competition. Even in case of pure monopolies, their operators are required to charge only reasonable rates that are not unjustly discriminatory; they are allowed to earn (but are not guaranteed) a reasonable profit. Furthermore, they are obligated to provide adequate service to the entire public on demand.

Operation under Regulation

Therefore, public utilities, owned by public or private investor, are normally controlled by regulatory authorities. In general the rights and duties of public utilities are stipulated in laws and/or set forth by court decisions.

The rights include the following:

(a) A public utility is normally entitled to charge a "reasonable rate" for its services directly or indirectly to beneficiaries which, under prudent and economical management, will afford it an opportunity to collect revenues sufficient to cover all proper operating expenses, debt and its interest, and depreciation expense. In case of public utilities of private sector participation an adequate return on the investment including dividends on its capital stock and a contribution to earned surplus would also include in addition to above items.

(b) A public utility is entitled to a grant, by public authority, of a concession or a franchise in some form, which provides it with an exclusive right to serve a specific service area free of competition from another service provider of the same service. The purpose of this grant extends beyond protection of the utility alone. It also protects the public from the comparatively high rates which would prevail if there were competition, since utility services must be most cheaply supplied by a monopolist.

(c) A right inherent in public utility status used to be that of eminent domain¹. This is a sovereign power delegated to public utilities for the limited purpose of acquiring private property or rights to some specific use of private property, which is required to serve the public.

(2) Economic Characteristics of Public Utilities

Large Capital Investment Required

Public utilities require proportionately heavier investment in fixed assets than do other businesses, which is one of the most important economic characteristics of public utilities. Capital turnover ratio, which is defined as the relationship of gross revenues versus capital cost, of public utilities is quite low which is less than 1.0, while a ratio of total manufacturing is about 2.0. Among others, the lowest capital turnover ratio among public utilities is that of the water supply utilities (0.2).

This means that water supply utilities are very capital-intensive industry. According to the NAWC Privatisation Study in 1999², more than US\$33 billion was spent by community water systems on capital expansion and enhancements during the eight years after the 1986 reauthorization of the Safe Water Drinking Act, and over US\$138 billion in capital investments required to meet water supply infrastructure requirements through 2015. Furthermore, overall US water systems maintain about US\$5 of gross assets for every US\$1 of revenue while other utility industries are significantly lower; for example electric; US\$3.08, telephone; US\$ 2.94, natural gas; US\$2.46, which means that fixed assets of water supply industries are accompanied by substantial constant costs, which are a function of plant size and not of the quantity of production.

¹ Eminent domain means compulsory expropriate right. Beneficiaries of public utilities are inhabitants for which public sectors have to be served as administrative services. Therefore, public sectors are to have rights to limit property rights of private sectors if said properties serve for public.

² The NAWC Privatisation Study, A Survey of the Use of Public-Private Partnerships in the Drinking Water Utility Sector (June, 1999) conducted by the Hudson Institute, Sponsored by National Association of Water Companies, Washington USA

Natural Monopoly

In general, free and competitive market would best serve both the public and service providers, since the greatest profit would go to those who were most efficient in satisfying the needs of the public. However, abovementioned low capital turnover ratio means that if free and competitive market theory is introduced into public utilities, then service quality and stable supply would not be assured as a result of the ruinous competition.

To avoid and prevent an investment of wasteful and costly duplication of facilities and to be free from the competition of other service providers of the same service in the same area, most adequate services of public utilities would be expectable if its performance is made under proper regulations, because by eliminating of costly duplication of facilities and by concentrating into a construction of the larger facilities with lower operating expenses, a stable operation of public utilities at lower unit costs than under competition can be attained. The larger facilities produce service at lower operating expenses and less plant investment per unit of output than smaller facilities do. Thus, regulated monopoly permitted the achievement of lower costs than would have been possible under competition, because utilities could take full advantage of the economies of large-scale production. Consequently, physical limitations alone indicate that public utilities are naturally monopolistic.

Compliance with the Demand for Public Utility Service

Public utilities in general are required to stand ready to serve whatever reasonable demands the consuming public may place upon them and are not able to withhold their services against demands.

Therefore, public utilities are required to invest in sufficient plant capacity to enable them to serve the maximum or peak demand anticipated, for which considerable effort to study for demand and supply has to be made for investment to comply with the future demands.

Pricing Policy

The pricing of public utility services is a matter, which arises in the course of regulation after determination of the total revenues that the utility will be allowed to earn from consumers for a stated or estimated quantity of service.

In most but not all instances, the utility is required by the regulator to submit proposed schedules of rates that will produce revenues closely approximating the amount approved. The regulator, after scrutiny, may order the proposed rates into effect with or without modification or may schedule a hearing on the proposed rates before deciding upon the rates it will authorize to be charged.

The pricing of public utility services is closely related with the regulation to be made by the regulatory authorities who would scrutinize and approve proposed schedules of rates of services. Such scrutiny is covering the demand characteristics of different kinds of customers, the different uses made of the service and the time at which service is demanded.

Due to the above-mentioned characteristics of public utilities are often to be handled by public sectors but not by private sectors as national policies, especially, in the past.

(3) Deregulation and Private Sector Participation

Improvement of public utilities services is an urgent problem not only for developed countries but also for developing countries with further increasing demand corresponding to urbanization and modernization. Due to the debt burden or limited budgeted governments, supported by the World Bank and other international organizations, promote private sector participations. By accessing the private financial resources, they expect to relief their budget from investment into public utilities. Technical and managerial skills of the private sector are expected to increase efficiency of operations.

After privatization, the role of government is to establish a mechanism for regulations of investments and public utilities operation. The essential purpose of regulations for private sector participation is to ascertain and control (a) reasonable prices (or rates) and reasonable profits, and (b) adequate service quality.

1.3 Water Supply Service and Waste Water Treatment (Sanitation) Service

(1) Characteristics of Water Utilities

Water and sanitation systems are essential for in both developed and developing countries. In comparison with other public utilities, water utilities are unique with special characteristics of “non-substitution” and “necessity” for consumers - local inhabitants.

Furthermore, in case of water utilities, the investment for installation of pipe networks is significantly higher part of the total investment costs compared to other infrastructure networks such as gas, electricity, or telecommunications.

Following factors are also pointed out³.

1. Transport costs for water are high (relative to the costs of the water itself).
2. Security of supply issue for gas and electricity, although not entirely resolved, are simpler than for water.
3. Gas and electricity present lower resource costs for new entrants (at least at present) whereas water is a rising cost industry.
4. Water is not homogeneous to the same degree as electricity and gas.
5. The quality of water is crucial.

Therefore, the proper regulation for water utilities of the private sector participation is required in order to get the best performance with the adequate price and quality, which would be controlled by the regulatory authority (regulator) nominated by the government.

Competition among different water companies with separate networks in the same area is usually not efficient because network requires heavy investment and expensive maintenance. Thus, the water utilities are natural and regional monopolies. Unbundling or separating of production and transmission have been recently considered and/or adopted only for some other types of network industries such as gas or electricity.

³ Dr. Tony Balance = Andrew Taylor, Competition and Economic Regulation in Water, The Future of the European Water Industry, Milton Keynes, Eng.: S&W Consultants Ltd., HD4465.E85 B35 Page 1-2 (2001), <http://wesley.stanford.edu/library/newtitles/01July.html>

(2) Deregulation

In many countries, water utilities are facing various difficulties.

They include⁴:

1. Infrastructure aspect:
Reducing leakage, replacing and extending networks, improving technology
2. Social and political aspect:
Improving coverage, affordability, higher standards, transparency, accountability
3. Environment and health aspect:
Public health needs, environmental management, conservation of water
4. Financial aspect:
Sustainable and equitable tariffs, effective revenue collection, financing investment
5. Managerial aspect:
Improving efficiency and productive, capacity building, efficient procurement

These are problems particularly for public-owned water utilities in developing countries. Governments are facing difficulties related to maintenance of an aging infrastructure, stringent environmental requirements, and lack of the resources required to fund necessary capital and operating improvements. Non-revenue water is also a serious problem.

To cope with above problems and difficulties, deregulation and private sector participation have been adopted in both developed and developing countries. The private sector participation of water utilities takes many forms. Among the industrialized countries, France, Great Britain, and the US provide individual examples of private sector participation for ways to finance and manage urban water resources⁵.

Around the world, the most common is the French model, which involves concessions or leases under which the private contractor collects all the revenues for a water service, carries the cost of operating and maintaining it, and keeps the surplus as a profit. Sale to the private sector of the complete system has only been carried out in the UK⁶.

(3) Private Sector Participation in Water Utilities

a. Summary

Private sector participation in water utilities can be defined in many ways. For the purpose of this report it is assumed that the private company must assume operating risk during the operating period and/or assume development and operating risk during the contract period. In addition, the private company, in general, consists of one or more corporate entities, with significant private equity participation that are separate from any government agency.

⁴ David Hall (University of Greenwich), Water in Public Hand, Public Sector Water Management – Necessary Option, Page 8, Public Services International (2001)

⁵ OECD, Global Trends in Urban Water Supply and Waste Water, Financing and management : Changing role for the Public and Private Sectors, Page 15 CCNM/ENV(2000)36/Final (2000)

⁶ David Hall (University of Greenwich), Water in Public Hand, Public Sector Water Management – Necessary Option, Page 10, Public Services International (2001)

Two models of private sector participation in water and sewage utilities can be distinguished: delegated management scheme and the full privatisation scheme (divestiture scheme), in other words, public ownership with private operation and private ownership with private operation. The delegated management is a French model, which has been developed and adopted in France. This model is so influential that it has been now widely adopted by the other developed and developing countries.

The full privatisation scheme has been adopted only in Wales and England. Under this scheme all of the assets of the water and waste water systems are placed into the private companies, usually, with shares sold to public.

b. Delegated Management System

There is no precise definition of the delegation of the public services by laws and/or regulations even in France, although the delegation of the public services has been strictly regulated by the law of January 29 1993 relative, so called loi Sapin⁷ and its amendment.

However, the delegation of the management of a public service does not mean that the public sector abandons or transfers for providing the public services to the local residents but just delegate only the management of the public service for outsourcing.

The public sector does not lose its competence of the public service even after its delegation, and it actually holds the rights and the duties to watch the delegated public services⁸. It may be defined that the delegation of the public service is to entrust the management of the public service to the private sector or other public sector.

There are three standard forms of municipal service delegation to the private sector. These are the management contracts (of varying forms), *affermage* and the concession. The main differences between these contracts are in the allocation of risks and responsibilities and the duration of the arrangements.

In practice, however, hybrids of these options may be used, e.g. the management contracts in which the private sector takes on some commercial risks, or leases in which the private sector undertakes some investments. As a result, there is a wide range of diverse contracts mixing concession and *affermage* types.

b.1 Management Contracts

There are two major forms of management contract in France. These are the '*gérance*' and '*régie intéressée*'. For both types of management contract, the contract's duration is typically around five years.

A *gérance* (management) contract is a full hands-on operation and maintenance contract where the private contractor provides all the staff and expertise required to run a system, typically a single treatment plant, but is not required to provide working capital or investment funds.

⁷ loi du 29 janvier 1993 relative à la préé la corruption et à la transparence de la vie économique et des procédures publiques

⁸ Pierre Manojlovic, Les Modes de Devolution Contractuelle du Service Public, II - Le Nouveau Regime de la Devolution Contractuelle : La Delegation de Service Public, <http://www.ifrance.com/spublic/contrat.htm>? (2002.12.20)

In France, the typical client is a municipality which itself does not have the expertise to run one of its treatment plants. Under a '*gérance*' the operator is paid a fixed fee for his services, with no productivity bonus or profit share. However, it is possible to base part or all of a contractor's payment on measurable results.

Where there is an element of productivity or profit related remuneration, this form of management contract is known as '*régie intéressée*'. Under a '*régie intéressée*' contract the operator has responsibility only for operating the network. He has no role in planning or undertaking capital investments or renewals⁹.

b.2 *Affermage*

Affermage is the most common form of water sector delegation contract in France.

Under an *affermage* arrangement, the municipality or his syndicate involved remains the owner of the assets, and is responsible for financing capital expenditure and making investment decisions. The private operator, however, is likely to provide advice to the municipality on the need for new investment.

The private operator is responsible for maintenance, renewals and rehabilitation.

The municipality may separately contract the private operator to implement capital investment decisions¹⁰. An *affermage* differs from a concession in that the municipality retains responsibility for financing and commissioning new investment in the system.

The company provides advice on the need for new investment, and is responsible for the operation and maintenance of the system. The private operator is remunerated directly by the consumer with a proportion paid to the municipality to cover its investment costs. The life of the *affermage* is usually of 12 years duration¹¹.

b.3 Concessions Scheme

In the concession contract, which is to be concluded between the public sector and the private sector, the private sector, for example, concessionaire, takes over full responsibility for the delivery of water and waste water services in a specified area within the contractual period from the public sector. The scopes of the concession contract are including all related construction, operation, maintenance, collection, and management activities.

The adoption of the concession contracts scheme in the water sector has been increasing in recent years not only in France but also in other countries including the developing countries, particularly for large cities, because the situation that the increased investment required to meet the increasing demands due to urbanization but shortage of fiscal budget and/or to meet stronger environmental regulation are acute problems for the public sector.

The concessionaire is responsible for any new capital investments required to build, upgrade, or expand the network and treatment facilities, and for financing those investments out of the

⁹ Dr. Tony Balance = Andrew Taylor, Competition and Economic Regulation in Water, Future of the European Water Industry, Milton Keynes, Eng. : S&W Consultants Ltd. page 81 HD4465. E85 B35 (2001)

¹⁰ Id.

¹¹ Id.

tariffs paid by water users over the life of the contract. The existing assets are, however, nominally owned by the public sector¹². The public sector is responsible for establishing performance standards with ensuring the concessionaire's performance the contractual obligations. However, the public sector is still responsible for investments in the development of new water resources¹³.

It should be noted that under the concession scheme the public sector's role is to shift from being the provider of the service to the regulator of its price and quantity. Said regulation is particularly critical and important in the water sector, because water is a public good and piped delivery systems are natural monopolies¹⁴.

The contractual duration depends on the contract requirements and the time needed for the private concessionaire to recover its costs and profit, but concessions are usually awarded for time periods of over 25 years.

The concessionaire pays to the public sector (to cover its expenses or any services provided) a portion of the fees collected from consumers.

At the end of the concession contract, control over the utility's assets reverts to the public sector and consequently, the concessionaire must recover the full cost of any investment in the network and facilities over the life of the contract.

Concessions are an effective way to bring private money into the construction of new water and waste water systems to the existing systems and/or the substantial renovation of existing systems. Combining the responsibility for investments and operations gives the concessionaire strong incentives to make efficient investment decisions and to develop innovative technological solutions, since any gains in efficiency will usually increase profits¹⁵.

c. The Full Privatization Scheme (Divestiture)

This scheme is an asset sale model, under which the public sector transfers the asset of the facility of the water utilities through selling down the equity stakes to the private sector that has a capability and a competence to operate water utilities facilities for the public with full responsibilities. This category includes full and partial divestitures.

The public sector achieves two benefits under this scheme. First, the public sector would enjoy the revenues from the sale of the assets and the public sector could provide the said revenues to other higher profile projects for the public. Second, the private sector that purchases the facility would run the water service efficiently in addition to funding the capital for improvements necessary to meet the demands and requirement of customers and the public sector. This scheme has been adopted only in Britain, who privatized its regional water and sewerage authorities under the Water Act in 1989, which authorized the privatisation of the

¹² Dr. Tony Balance = Andrew Taylor, Competition and Economic Regulation in Water, the Future of the European Water Industry, Page 81 Milton Keynes, Eng.: S&W Consultants Ltd. HD4465.E85 B35 (2001)

¹³ OECD Global Trends in Urban Water Supply and Waste Water, Financing and Management : Changing Roles for the Public and Private Sectors Page 26, CCNM/ENV(2000)36/FINAL (2000)

¹⁴ Dr. Tony Balance = Andrew Taylor, Competition and Economic Regulation in Water, the Future of the European Water Industry, Page 81 Milton Keynes, Eng.: S&W Consultants Ltd. HD4465.E85 B35 (2001)

¹⁵ OECD Global Trends in Urban Water Supply and Waste Water, Financing and Management : Changing Roles for the Public and Private Sectors Page 27, CCNM/ENV(2000)36/FINAL (2000)

water and sewerage sector in England and Wales. Before the privatisation, there were 10 government-owned regional water authorities supplying water and sewerage services and 29 statutory water companies supplying water only. The assets and liabilities of the 10 water and sewerage authorities were transferred to 10 private companies in September 1989. In November of the same year, shares in the holding companies were sold in the stock exchange¹⁶.

d. Dominance of the Concession Scheme

The most popular scheme is the concession scheme, which dominates the private sector participation in water utilities. The reason of the dominance is that the concession scheme is attractive to the public sectors because they place full operational and investment responsibilities, and associated commercial and investment risk, with the private sector, maximizing potential benefits from efficiency gains and access to private sector financing¹⁷.

However, the transparent and credible regulatory schemes for the smooth and effective operation by the private sector have to be built up in case of the adoption of the concession scheme by the public sector.

(4) Regulation and Competition

Concession arrangements embody a regulatory framework and should be seen as an integral part of economic regulation. The key elements of the regulatory framework, including tariffs, degree of competition, interconnection regime, and performance targets, are defined in the concession contract. Because of the element of monopoly, public service obligations tend to include detailed specifications on the service to be provided, the obligation to supply, equal treatment of users, continuity of service, and so on. These terms need to be monitored and enforced and may need to be revised from time to time to reflect changing conditions. Thus, concessions may grant the regulator a certain amount of discretion and, at the same time, provide recourse against the decisions of the regulator. In view of concessions' public service nature, the regulator and/or public authorities will often reserve the right to unilaterally modify some of the concessionaire's obligations or even to terminate a concession before its stipulated term¹⁸. The water sector has a long history of tariffs below costs and political resistance to raising them in both developed countries and developing countries. Considerable commitments of the public sector are required to set tariffs to cover costs, and to build regulatory arrangements that give the private sectors confidence that they can make a fair rate of return on their investments. In general, through the regulator the regulation is to be made against tariffs and qualities of water, and services provided by the water companies with the private sector participation. For the adequate regulation the regulator must know how much cost would be required for the best operation to supply high-quality water with the best service quality. In other words, poor information on the operational situation of water companies is to lead to abandonment risk, which eventually occurred MWSI on December 9, 2002 when MWSI announced to return a concession right to MWSS because of lack of understanding of MWSI operational situations. During a contract period, the regulator must

¹⁶ OECD Global Trends in Urban Water Supply and Waste Water, Financing and Management : Changing Roles for the Public and Private Sectors Page 17, CCNM/ENV(2000)36/FINAL (2000)

¹⁷ Gisele Silva = Nicola Tynan = Yesim Yilmaz, Private Participation in the Water and Sewerage Sector – Recent Trends, the Private Sector in Water Competition and Regulation, Page 10, Finance, Private Sector and Infrastructure Network, World Bank Group (1999)

¹⁸ Pierre Guislain and Michel Kerf, Concessions -- The Way to Privatize Infrastructure Sector Monopolies, Public Policy for the Private Sector, The World Bank Group, Note No.59 (1995)

always make best effort to check and review the operational situations of water companies upon fully paying attention to the changing circumstances such as inflation and extraordinary situations to reflect the adjustment of the tariff basis which is ultimately going to the benefit of consumers in a view point of continuities and best services.

One of adequate methods may be to review (by the regulator) every year the factors, which have been impacted to the tariffs such as inflation, foreign and an extraordinary situations etc., to reflect to the contracted tariff for an adjustment for expected productivity changes. In addition to review the price every three to five years should be also considered to ensure that the water company's profits would be reasonable¹⁹. The re-tender and/or auction of the right to supply water every twenty years or so is also the adequate methods to comply with this matter, because the regulator can get information through the re-tender and/or auction when bidders state the price at which they would be willing to supply water of a specified quality, and the bidder offering the lowest price wins the contract. The regulator should be careful, when reviewing prices, to allow the concessionaire to cover the costs of such investments, which is important for the delegated water companies to invest for and/or to maintain the quality of water.

(5) Operator

a. Operator as the Main Player

The concession contract is the long-term contract to be concluded between the public sector and the private sector. In general the said private sector takes a form of SPC, which would be established by private companies with significant private equity participation. The core of the said private companies is an international operator who will take an important role on the management and operations of SPC throughout the contractual period. There are only few international operators in the world who have capabilities and competences to sponsor and operate considerably big projects. The dominance of a few major international players is characteristics of water utilities with the private sector participation.

b. Three Giants

There are three major private operators of the water industry in the world, Vivendi Environment (France), Ondeo (France)(former Suez Lyonnaise des Eaux) and Thames Water (UK). The three major private operators have extensive water and wastewater operations in not only homeland countries but also in other countries such as Latin America, Asia, and the United States and elsewhere in Europe. Among others, Vivendi and Ondeo are outstanding.

b.1 Vivendi

Vivendi is one of the largest operators in the world with nearly 300,000 employees and 25 million water customers, and 19 million sewerage customers. Vivendi is a significant water operator in other world markets of which business activities are over 100 countries, including the United States, Latin America, the United Kingdom and Europe. Worldwide revenues for Vivendi Environment in 2001 were US\$ 28.3billion²⁰ of which 67% was revenues in water and waste water sectors and remaining 33% was in energy, transportation and other sectors²¹.

¹⁹ These measures have been taken into MWSS contracts (Refer to Article 9.4).

²⁰ Vivendi Environment Annual Report of 2001

²¹ Ibid.

b.2 Ondeo

Ondeo group, which is consisting of Onedo Industrial Solution, Ondeo Nalco, Ondeo Degremont and Ondeo Services²², is also one of largest supplier with 110 million people in water and wastewater services in the world²³. Just same as Vivendi Environment, Ondeo also has significant international operations over 130 countries. Worldwide revenue of water and waste water sectors was approximately US\$8.5 billion in 2001²⁴.

b.3 Thames Water

Thames Water is the world's third largest water company. In November 2000, Thames Water was merged by RWE, Germany, which is one of Europe's largest utility companies. RWE's core business is public utilities supply including electricity, natural gas, water and waste, and recycling services²⁵. Thames Water now serves 51 million customers around the world and employs 14,000 people²⁶.

c. Dominance of French Operators

Two French Operators, Vivendi and Ondeo, have won more than half of the big private sector water contracts awarded between 1993 and 1997, totaling \$12.6 billion. Both companies are well over 100 hundred years old, giving them a depth of experience attractive to many governments seeking private involvement in water supply and waste water treatment. Another French water company, SAUR, which is owned by the construction company Bouygues, is also active in a number of countries²⁷.

1.4 Objective

The objective of this study is to evaluate the private sector participation in Metro Manila water supply to understand its effect and applicability in other developing countries. Based upon the review of the MWSS PPP case, recommendations for success of future JBIC PPP programs in developing world will be made.

Reviewed issues are as follows.

- (1) Clarification of the PPP impact on
 - a) Quality of water and sanitation services, in terms of accessibility, availability, and cost borne by consumers
 - b) The government's financial burden – Were the government's expenditures for the water service delivery in Metro Manila reduced?
 - c) PPP arrangement analysis - allocation of responsibilities between MWSS, MWSS-Regulatory Office, and the concessionaires
- (2) Recommendation of PPP scheme and process improvements

²² Ondeo Front Page (<http://www.ondeo-is.com/FrontOffice/chart.asp?id=112&id1=0&preview=0>) (2002.12.23.)

²³ ONDEO Home Page, http://www.ondeo.com/index2_eng.html (2002.12.22)

²⁴ Ibid.

²⁵ RWE Home Page, <http://www.rwe.com/en/index.jsp?bhcp=1> (2002.12.22.)

²⁶ Thames Water Home Page, <http://www.thames-water.com/> (2002.12.22.)

²⁷ OECD Global Trends in Urban Water Supply and Waste Water, Financing and Management : Changing Roles for the Public and Private Sectors Page 16, CCNM/ENV(2000)36/FINAL, OECD (2000)

When applying a PPP scheme to public utilities, private sector is expected to introduce an effective investment, efficient operation and maintenance together with a high-quality service. To achieve that, the private sector must be enabled to make sufficient profits from its operation, but on the other hand, public interests under monopolized market condition has to be considered as well. The way to balance the public and the private interests, an evaluation framework on PPP in water supply services, and issues to be studied in the future are recommended.

1.5 Study Focus

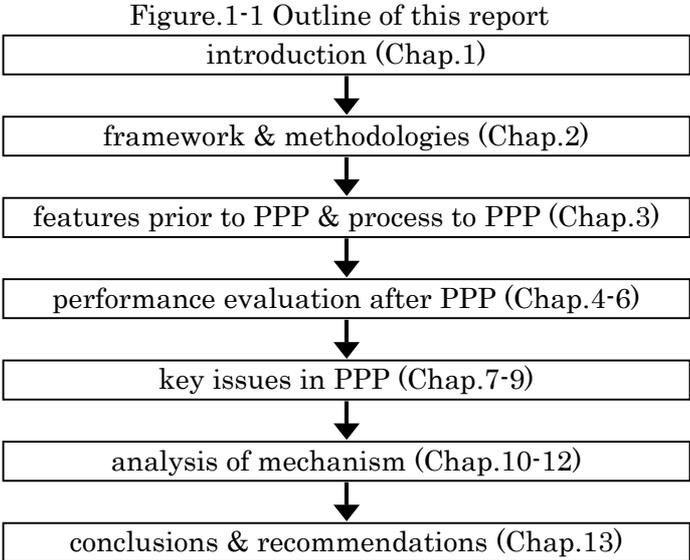
Information and data related to following issues have been gathered to clarify the following issues.

- (1) Public financing of the water utilities
- (2) Water service quality and coverage, reduction of the non-revenue water
- (3) Cost of the water production and delivery
- (4) Tariff setting structure
- (5) Future water demand forecasting and water resource planning
- (6) Employment and human resource related issues
- (7) Social issues - targeting the poor
- (8) Concession Agreement
- (9) Public auditing and regulation
- (10) Design, scheme and process of bidding
- (11) Dispute resolution mechanism

These data were analyzed to obtain the evaluation criteria for assessing PPP scheme in water supply service in the developing countries.

1.6 Outline of this Report

We begin with a brief introduction of this study, including its background and objective. The framework and methodologies of the case study in MWSS PPP are described in Chapter 2; followed by features prior to PPP in the water supply and sanitation services and process of PPP in the Metro Manila services in Chapters 3-4. Performance evaluation based on the comparative analysis was carried out for service-related, financial and social aspects of the water supply privatization (Chapters 4-6). Key issues in the process of PPP and mechanism on inducing such performance was analyzed in Chapters 7-9 & 10-12 respectively. Finally, the conclusions and recommendations for future PPP and further study are provided (Chapter 13).



2. Framework and Methodologies of the Study

2.1 Study Framework

The following tasks have been completed in order to answer the following five questions.

1. Was the public financial burden to manage the water utility relieved by the PPP?
2. Was the service level improved by the PPP? By what cost?
3. Does the allocation of the responsibilities between MWSS, Regulatory Office (RO) and the concessionaries need any improvement?
4. Was the introduction of the PPP appropriate from the viewpoint of the future water supply and sewerage master plan in Metro Manila?
5. Do the PPP scheme and its implementation need any improvement?

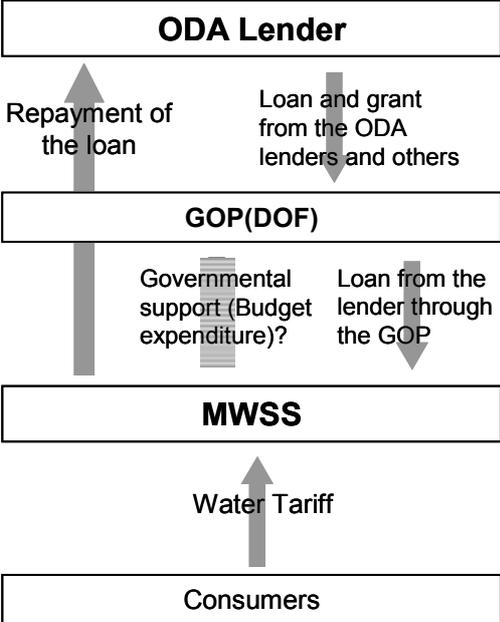
Task 1: Analysis of the conditions prior to the PPP

Method: primary data collection, document analysis

Performance of MWSS before the privatization was studied and later compared with the performance of the concessionaires. The study have focused on the following aspects of the pre-PPP situation: (a) conditions of assets of MWSS; (b) financial situation of the MWSS; (c) the operation of the water supply and wastewater treatment by MWSS; (d) the service performance level; (e) the related projects undertaken by MWSS; and (f) process of the introduction of the PPP. The period of the last five years before the privatization (1992-1996) has been compared with the five year-period between the privatization and this research (1997-2002). The primary data have been collected from MWSS.

In addition to the MWSS financial situation, flow of the public funds outside the organization has been studied (Figure 2-1). These outside flows have been considered when public finance burden before and after PPP introduction were compared.

Figure 2-1: Pre-PPP Public Finance Flow around MWSS



Task 2: Analysis of the PPP rationale

Method: interview, document analysis

Through the interview with the concerned agencies and critical reading of the bidding documents and other related documents, particularly the advice by the technical advisors to the government (i.e. IFC), perceived rationale for the PPP has been analyzed. The reason for this was to verify consistency between the structure of the PPP and the perceived rationale. Through this task, main reasons behind the decision to utilize concession rather than other forms of PPP have been illustrated. The following was the rationale for PPP.

- Improving operating efficiencies
- Increasing capital investment
- Expand service coverage
- Relieving the public financial burden for the government agency
- Reducing the tariff for the consumers

Task 3: Analysis on the key features and initial conditions of the PPP

Method: interview, document analysis

Using the bid documents and concession agreements for the PPP as primary reference documents, the study team have illustrated the initial conditions and successful and unsuccessful features of the PPP. Analyzed issues are listed below.

- Obligations of the concessionaires
 - * Service obligations including NRW
 - * Concession fee obligations
 - * Asset management obligations
 - * Human resources related obligations
- Obligations by the government agencies
 - * Creation of the regulatory office
 - * Bulk water supply obligations
 - * Other MWSS obligations
- Tariff structure and rate adjustment mechanism
 - * Original pricing mechanism
 - * Amendment 1 to concession agreement
- Other design features
 - * Division of the east and west service coverage areas
 - * Concession fee allocation between east and west service areas
 - * Termination clauses
 - * Performance target and penalties
 - * Dispute resolution mechanism

In addition to these features, which have been compiled from bid documents and concession agreement, financial and organizational profile of the two concessionaires has been analyzed.

Task 4: Evaluation of the performance of each related agency

Method: primary data collection, interview, document analysis

The actual performance of the two private operators has been compared (a) with their targets set in the concession agreement; (b) with each other; and (c) with the situation before their operation. The following indicators for the involved agencies have been considered.

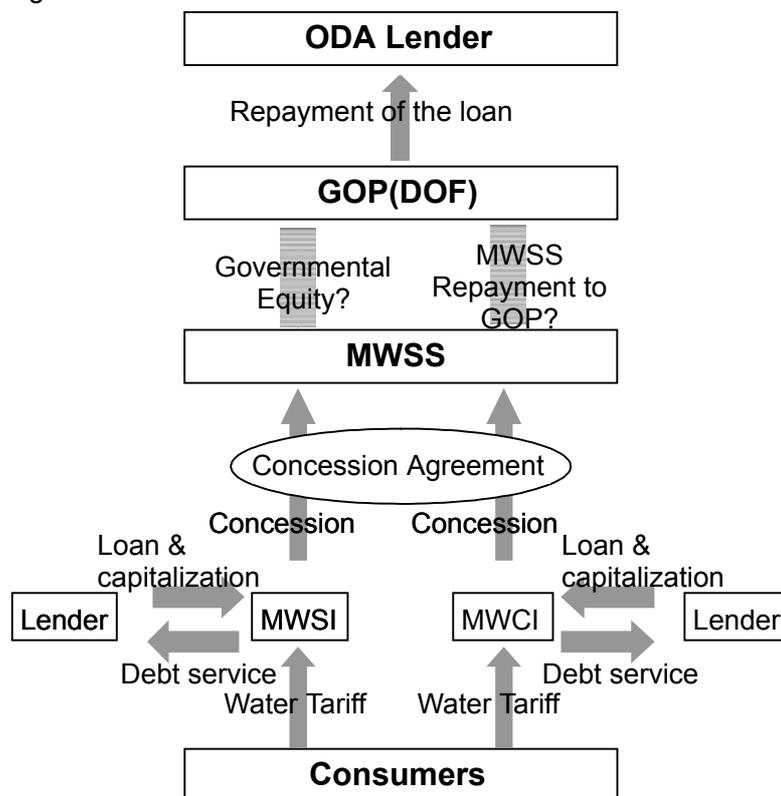
- Government agencies

- * Public finance related
- * Regulatory functions
- * Dispute resolutions
- * Public performance undertaking such as bulk water supply
- Concessionaires
 - * Service performance
 - * Financial performance
 - * Addressing social concerns

The same primary data, which was collected through task 1, has been utilized to evaluate the performance of the government agencies. In addition, similar data were collected from the two concessionaires for the period of 1997 to 2002. In addition to these primary data analysis, public opinion surveys conducted in 1996 (pre-PPP) and 2000 (post-PPP) by the Social Weather Station were used for evaluation of the related agencies from customers' point of view. The surveys illustrate overall consumers' satisfaction with the quality of the provided services and their cost. Change of water providers' approach towards the customers can be observed.

To evaluate whether the public-finance burden to manage water supply was relieved, the overall finance flow as illustrated in the Figure 2-2 was compared to the overall finance flow in the Figure 2-1.

Figure 2-2: Present-PPP Public Finance Flow around MWSS



Task 5: Evaluations of the system and the process of PPP

Method: document analysis, interview

In this task, the following elements of the PPP have been examined through interviews with the concerned agencies and document analysis.

- Regulatory framework
- Bidding and procurement methodologies
- Agreement and contracting
- Tariff adjustment
- Performance auditing
- Dispute resolutions
- Function of the donor agencies (especially IFC and ADB as a technical advisor)
- L/A before introducing PPP

Task 6: Overall assessment of the impact of the PPP

Method: document analysis, interview

In tasks 1 to 5 mechanism of the PPP was examined, which provided a basis for the recommendation to JBIC how to support client government to handle PPP in the water sector more effectively.

The parameters considered in the analysis are as follows.

- Stakeholders and the interrelationship among them
- External factors to the PPP such as Asian financial crises and El Nino
- Process of decision making
- Structure of the bid design
- Financial mechanism through PPP
- Incentive mechanisms to improve services
- Incentive mechanisms for cost reduction
- Incentive mechanisms for dispute resolution
- Mechanisms for sustainability and future service expansion

2.2 Data Collections and Fact Findings

To conduct the above analysis, primary data was collected and interviews with various stakeholders were performed, as described in the previous section. The data used were obtained from the following agencies.

- * MWSS
- * MWSS Regulatory Office (RO)
- * Maynilad Water (MWSI)
- * Manila Water (MWCI)
- * Social Weather Station (Consumer surveys in 1996 and 2000)

In addition to the primary data, the following documents were collected: bidding documents for the PPP, the concession agreement, and annual reports of MWSS MWSS-RO, MWSI, and MWCI.

To supplement the primary data analysis and document review, interviews with the mentioned agencies. The following chart illustrates the relationship and linkage between the collected data and the conducted evaluation.

Table 2-1: Relationship and linkage between the data to be collected and evaluation to be conducted

Organization	Evaluation topics		Performance of each related agency					Users' satisfaction	
	Data	Features and initial conditions of the PPP	Public finance related	Regulatory functions	Service performance	Financial performance	Social concerns	Service levels	Access and satisfaction to the overall services
	Bidding documents and concession agreements	○							
DOF	Cash flow of loan		○						
	Budget to MWSS		○						
MWSS	MWSS' balance sheet		○						
	State of employee						○		
	Human resource development program						○		
	Retention rate of MWSS staffs to concessionaires						○		
	Water supply					○			
	Expenditures		○						
	Future development (water/sewerage)					○			
Concessionaire	Water cost paid by users					○	○		
	State of employees						○		
	Human resource development program						○		
	Policy and special program for the poor						○		
	Public education						○		
	Water quality					○			
	Service coverage					○			
	Water consumption					○			
	Public information						○		
	NRW						○		
	Expenditures						○		
	Environment						○		
	Waste water performance					○			
	Future development (water/sewerage)					○			
MWSS-RO	Water quality			○					
	Service coverage			○					
	Water consumption			○					
	Public information			○					
	NRW			○					
	Expenditures			○					
	Environment			○					
	Waste water performance			○					
	Public auditing/Regulation			○					
Social Weather Station	Consumer Satisfaction							○	○

3. Provision and Process of PPP in Water and Sanitation Services in Metro Manila

3.1 Background

This study looks into the provision of water and sanitation services in Metro Manila, the capital region of the Philippines. Metro Manila is a sprawl of 636 sq. km. of land, bounded by Manila Bay on the west, the province of Bulacan in the north, the province of Rizal in the east and the provinces of Laguna and Cavite in the south. Comprising 12 cities and 5 municipalities, Metro Manila is densely populated – around 10 million inhabitants according to the census in 2000, or a density of approximately 16,000/sq. km. This is high as compared with Bangkok Metropolis' density of 4,000/sq. km.¹ Around 13% of the entire Philippine population lives in Metro Manila

Although population growth has slowed down considerably in the past few years (1.2% during 1995-2000 compared to the national average of 2.4%), Metro Manila's urban growth spill over neighbouring towns is tremendous. Population growth in the adjoining towns and cities range from 4-6% as they increasingly become magnets of migration ushered in by intensified economic activity owing to their proximity to Metro Manila. These towns absorb substantial number of workers who commute to Metro Manila as well as the growing number of employment created by expanding or relocating industries that can no longer be accommodated within Metro Manila. Urbanization rates in these peri-urban areas are therefore high. Hyper-urbanization is occurring very fast at 5.1% annually, among the highest in the world.

Rapid urbanization in Metro Manila and the adjacent towns pose great stress to the provision of basic services like water and sanitation, especially to the poor whose access to these services is limited. As of last count, there are 1.4 million people in Metro Manila living below the poverty threshold (defined as those with family income of already a low 18,000 pesos or about \$350 a year).

Metro Manila consumes about 3,700 million liters daily (MLD). This figure however captures the 1,600 MLD (or 57%) that are lost on account of leaks in the system and pilferage. The capacity of the current water supply system is 4,000 MLD. Recent studies indicate that the water supply is near (if not already behind) critical situation given projected demand as well as the seeming slow progress of water source development for Metro Manila. Based on the current capacity of 4,000 MLD and a daily average demand of 3,700 MLD, a potential peak demand of 1.21x the average demand (4,400 MLD) cannot be met by the current capacity.

Metro Manila, however, is doing comparatively well in the provision of water services. Overall, 90% of the Metro Manila population has access to water services. This is above the record for most other Asian countries.

The water distribution system of Metro Manila is among Asia's oldest water systems. It dates back to the late 1800s during the Spanish occupation. The Carriedo Waterworks was established in 1878 and sourced its water from the Marikina River to service the City of Manila. In 1919, the name was changed to Metropolitan Water District and the water was then sourced from the Ipo dam and Angat River in Bulacan. The waterworks system of the Philippines was centralized in 1955 and the National Waterworks and Sewerage Administrator (NAWASA) became the agency in charge overall of all water utilities. The Metropolitan Water District formed part of this agency. When centralization proved to be

¹ See <http://www.citypopulation/de/cities.html>.

inefficient especially in the provinces, NAWASA was abolished. The Metropolitan Waterworks and Sewerage System (MWSS) was established in 1982 to provide water and sewerage services to Metro Manila, Cavite and Rizal provinces. The provision for water and sanitation services was bided out in 1997 and leased to two concessionaires for 25 years.

Source development and distribution of water in Metro Manila are defined by the interplay of the policies and programs of various national government agencies, local governments and the country's sources of Official Development Assistance (ODA). The key national agencies involved are the Department of Finance (DOF) (in the provision of borrower and sovereign guarantees for foreign loans contracted for water projects and in the direct monitoring of the MWSS as a government corporate entity), the National Economic and Development Authority (NEDA)(in the review of projects for ODA funding), the MWSS (in water source development and distribution), and the National Water Regulatory Board (NWRB)(in the regulation of water source development for areas outside Metro Manila). The Department of Public Works and Highways (DPWH) wields considerable power in policy making being the chair of the Board of the MWSS. It is also the erstwhile chair of the NWRB until the recent designation of the Department of Environment and Natural Resources (DENR) as leading agency for this regulatory body. The DENR is responsible for the environmental safeguards, including compliance by the utilities with anti-pollution laws and regulations. The Department of Health (DOH) monitors the quality of drinking water.

Local governments also play important role particularly in the delivery of water services to the urban poor because they influence the identification and prioritization of communities that benefit from any new service connections in their localities. ODA funding agencies such as the World Bank (WB), Asian Development Bank (ADB), and Japan Bank for International Cooperation (JBIC) are important sources of advice and financing support for feasibility studies and investment projects.

3.2 PPP in Philippines

The Philippines is one of the leading East Asian countries in promoting PPP, especially in infrastructure. The country has for a relatively short period of time arranged quite a number of significant PPP activities since it started private participation in infrastructure in the early 1990s. The first initiative was the creation of the Committee on Privatization in early 1990s to dispose large government industrial and infrastructure enterprises. The government later passed the landmark build-operate-transfer (BOT) law that ushered in a competitive and transparent process for PPP schemes.^{2, 3}

PPP in the Philippines is most significant in power, water, telecommunications and transport. In power, the Philippines is ahead of other Asian countries in generating private sector involvement in power projects. There are more than 30 projects contracted to generate power supply. Distribution is largely by private companies. The recent passage of the comprehensive Electricity and Power Industry Reform Act introduced further reform in the power sector, including the privatization of the National Power Corporation's remaining power facilities as well as transmission system.

In water, the Philippines embarked in 1997 on the world's largest water system privatization scheme with the award of two concession contracts for the provision of water supply to Metro Manila. Almost at the same time, a joint venture was arranged for the water supply system in

² "Private Solutions for Infrastructure: Opportunities for the Philippines"

³ Public-Private Infrastructure Advisory Facility and the World Bank (2000)

Subic Bay free port area. Through other foreign-funded projects, private sector capital is being brought to improve water supply in small towns.

Long under the monopoly of a private company, telecommunications sector was liberalized in 1993 which brought in numerous players providing telephone, cellular and international gateway facilities. There are now over 70 local exchange carriers, 5 cellular phone companies and the huge backlog in telephone demand is now virtually addressed. Finally, the Philippines has also made headway in bringing in the private sector in the construction, operation and management of several transport facilities. Two major international container terminals are being operated by private companies, and a number of toll roads have been likewise constructed by private firms and more are underway. A new international airport has been built by a consortium of international and local companies although the contract is now under review by the courts. BOT and other variant schemes are under discussion for the expansion of the light rail system within Metro Manila.

The use of PPP schemes is so widespread in the Philippines that projects not normally covered by such schemes are likewise carried out through private sector participation. These include the automation of the passport processing (completed project), the modernization of the electoral process (on-going) and the computerized registration of aliens (under review).

3.3 Process of PPP

(1) The road to privatization of water and sanitation services

The huge debt overhang that the Aquino administration inherited from the Marcos regime fortified the Aquino government's resolve to entice private sector participation in public sector activities. It was also during those years that privatization started to gain momentum in many countries. President Aquino enacted the landmark Build-Operate-Transfer (BOT) law, which provides the legal basis for this public-private partnership in the provision of key government services.

During the Ramos administration, President Ramos aggressively promoted the BOT scheme as a means of mobilizing private sector finance to bankroll urgent power generation projects that were pursued vigorously to address the power crisis that plagued the country. Offers were also made to the Ramos government to privatize MWSS. Attracted as it was, the government was cautious as privatizing a water utility was considered illegal within the context of the prevailing Philippine law. Pursuing private sector leadership in water services might result in public outcry. Yet, the MWSS at the time was serving only two-thirds of its service coverage area with an average 16 hours of water availability per day while sewerage services only reached 8% of its coverage population. Non-revenue water was alarmingly above 50%. Furthermore, it depended largely on ODA for funding of its capital expenditures on new water sources and the rehabilitation of the aging MWSS network.

There was evidently widespread public dissatisfaction with the very limited water service and general perception that with the way it conducts its business, MWSS would not be able to respond to expectations of better water and sanitation services. Delays in procurement by MWSS projects, in sourcing financing of its projects and the sheer large number of employees at MWSS did not provide for any optimistic direction for resolving the looming water crisis in Metro Manila.

Upon President Ramos' instruction, then DPWH Secretary Vigilar pursued the privatization of MWSS. The Water Crisis Act (WCA) of 1995 was passed and this gave the President

authority to address the crisis within one year. Under this law, the President was bestowed the power: 1) negotiating BOT contracts; 2) grant authority to MWSS to reorganize itself, 3) make water theft a criminal act. The WCA and Executive Order 311 explicitly indicate the desire of government to privatize MWSS and also formed the legal basis for the MWSS privatization.

Technical and financial advisers were enlisted to guide the privatization process. The International Finance Group (IFC) of the World Bank Group was tapped to be the government lead adviser. The Buenos Aires model was adopted for the privatization of MWSS and it was decided that a concession arrangement was the direction to take. Preparations for the bidding were made under the guidance of IFC.

(2) Legal and policy framework

The National Water Crisis Act is the overall basis of the privatization of MWSS. It gave the Philippine president the powers to issue Executive Orders necessary to initiate the transformation of the MWSS into an undertaking involving private financing and management of water services provision in Metro Manila. The Act and the Executive Orders provided the legal mandate for MWSS to enter into arrangements that resulted in the participation of the private sector in the operations of MWSS.

Because it is not totally familiar with how water utilities are best transformed into private undertakings, the Philippine Government in 1995 engaged the services of the IFC as the lead advisor in the privatization of MWSS. A comprehensive study on MWSS was made as a step towards the privatization of MWSS.

(3) Design and intent of privatization

The privatization model for MWSS is based on a concession arrangement wherein MWSS retains ownership of the water facilities and maintains a regulatory function over water rates while the private sector operate the water supply, sewerage and sanitation services in the MWSS service area for 25 years. MWSS divided the service area into two geographic zones, namely the East Zone and West Zone, with each zone to have its own concessionaire. The rationale for having 2 service zones rather than keeping one whole service area under a single concession is to ensure competitive benchmarking. The selection of the two concessionaires was done through competitive bidding. The arrangements between MWSS and the concessionaire were then formalized in the form of a concession agreement detailing the obligations of MWSS and the concessionaire.

The overall goals in privatizing MWSS are to a) improve water, sanitation and sewerage services in the MWSS service areas, and b) put the financial obligations of MWSS in order and at the same time to provide appropriate return on private sector investment in MWSS. Specifically, PPP in MWSS is hoped to achieve the following objectives:

- a) to improve water service in terms of availability, pressure and quality and to improve operational efficiencies (that is reducing NRW)
- b) to expand water, sewerage and sanitation services coverage and to increase capital investment in these areas
- c) to promote customer satisfaction
- d) to relieve the government of the financial burden needed to improve service

(4) The bidding process

In July 1996, MWSS issued preliminary information to interested bidders, the two concessionaires. This information was intended to guide interested companies on the technical and commercial aspects of the concession being offered. Among the key conditions in the bid materials is that the bidder should be composed of a “local sponsor” and an “international operator”. The local sponsor is expected to have the financial strength and management leadership to implement the business plan. The international sponsor on the other hand should bring international experience in the provision and management of water supply, treatment and distribution, and sewerage and sanitation services.

At least 50 companies, local and foreign expressed interest to participate in the MWSS privatization plan but only 4 consortia were shortlisted to bid. The bidders were required to submit technical plans and separate rate bids for both concession areas. The technical plans should comply with the service obligations and other requirements of MWSS. The rate bids were expressed to be as a percentage adjustment to the rates charged by MWSS at the time of the bid.

In December 1996, Manila Water Company (MWCI) submitted the lowest rate bids for the two 2 concession zones. However, with the restriction that no single bidder can obtain both concessions, MWCI had to choose one service area. It opted for the East Zone perhaps as most of its business interests are in that area. Maynilad Water Services, Inc. (MWSI) which submitted the second lowest rate bid was awarded the West Zone.

MWCI submitted a bid rate, which resulted to a new tariff of P2.32 per m³ for the East Zone while MWSI proposed an effective tariff of P4.97 per m³ for the West Zone. The huge gap in the tariff rates between the two 2 service zones caused concerns on the sustainability of the concessions.

In February 1997, MWSS formalized the contracts of the 2 concessionaires and these concessionaires commenced their operations in August 1997.

3.4 Initial Facilities Conditions in West and East Zone

Prior to privatization all interested bidders were furnished a list of the MWSS facilities including lengths and type of pipelines. As to conditions of these facilities, only the following information was furnished the bidders⁴.

- Dams and conveyance facilities – date of completion.
- Distribution reservoirs – whether operating or not.
- Pipelines 48% classified as new lines (after 1980) and 51% old lines (before 1980). Pipeline materials of almost 50% of the old lines were still unverified.
- Sewer facilities – year of construction for two (2) of the four (4) sewerage treatment plants.

After the privatization in 1997, the MWSS came out in December 1998 with a Closing Audit Report, which listed the year of construction and accounting book value of all its assets. No physical condition of the assets was given. Both concessionaires were eventually made to the inventory and list conditions of their assets, which was completed in 2001.

⁴ Information to Bidders, IFC

3.5 Concession Agreement

The concession agreement: (a) defines the general obligations and functions of MWSS and the concessionaires; (b) sets target service obligations; (c) defines the water rate adjustments; (d) defines the early termination procedures and (e) defines dispute resolution.

(1) General Features

Division of the East and West Service Coverage Areas. For 25 years starting August 1997, MWCI has the right to operate the East Service Area and MWSI the West Service Area for 25 years. The geographical boundary between the service areas west and east coincides generally with the MWSS sector boundaries prior to the privatization.

Concession fee allocation between East and West Service Areas. MWCI and MWSI are required to pay concession fees roughly US\$1.2 billion over the 25-year concession period. The concession fees represent mostly debt service payments for the existing foreign currency-denominated loans of MWSS. The concession fee for MWCI (the East Service Area) represents roughly 10% of the financing requirements of MWSS to service its loans while MWSI (the West Service Area) represents about 90%.

(2) Termination Clauses

Under the concession agreement, termination can be caused by either of the following:

- a) MWSS Event of Termination, when MWSS: (a) assigns the concession for the benefit of creditor, petition or apply for a receiver or commence legal proceedings by reason of its financial difficulties; (b) revokes the Undertaking Letter or any government approval necessary to enable MWSS to perform its obligation under the concession agreement; or (c) fails to perform an obligation that prevents the concessionaires from carrying out its responsibilities.
- b) Concessionaire Event of Termination, when the concessionaire: (a) assigns the concession for the benefit of creditor, petition or apply for a receiver or commence legal proceedings by reason of its financial difficulties; (b) fails to perform its obligation, which, in the opinion of the Regulatory Office, such failure amounts to an effective abandonment of the concession agreement as it jeopardizes service delivery; or (c) fails to perform a material obligation, which, in the opinion of the Regulatory Office, a financial penalty is inappropriate or ineffective.

(3) The Obligations of the Concessionaires and MWSS

1) Service obligations

The concessionaires are required to provide the following:

- a) Adequate water supply in the service area. The concessionaires are required to provide water supply services to all existing customers sufficient connections to meet the coverage target percentages of the population in the service areas. The concessionaires must ensure that the supplied water meets the Philippine drinking water quality standards.
- b) Sewerage and sanitation services. The concessionaires are required to supply sewerage services to all existing customers who have sewerage connections. They are also required to meet the target coverage percentages of the total population connected to the water system. The concessionaires are likewise expected to provide septic and sanitation cleaning services and to meet the services.

- c) Customer services. The concessionaires are expected to provide the highest quality services such as prompt responses to customer inquiries and complaints, notices for planned service interruption, urgent restoration of water supplies for any unplanned service interruptions, and adequate information to the public about water service charges.

2) Concession fee obligations

An annual concession fee is collected by MWSS from the concessionaire to: (a) service debt obligations of MWSS; (b) fund the annual current operating budget of the Regulatory Office and MWSS; and (c) finance the local counterpart costs of ongoing investment projects.

3) Asset management obligations

The concessionaires are required to operate, maintain and renew all facilities to enable the water and sewerage system to meet the service obligations. It is their obligation to document the conditions of all assets managed by them. The Regulatory Office can audit and, as necessary, commission remedial works.

4) Human resources obligations

The concessionaires are either to rehire MWSS employees or to offer attractive retirement and severance package for those who cannot be absorbed by them. For re-hires, there must be no diminution of benefits and are given employee stock option plans.

5) Performance Bond

The concessionaires are required to post bond in favor of MWSS to secure performance of their obligations. The aggregate amounts drawable under the performance bond are adjusted during rate re-basing and should gradually decrease over time.

MWSS is expected to cooperate in all reasonable ways to ensure that the 2 concessionaires can carry out their responsibilities under the agreement.

(4) Concession Fee Setting in the Contract

Concession Fee obligations

An annual concession fee is collected by MWSS from the concessionaire: (a) to service debt obligations of MWSS; (b) to fund the annual current operating budget of the regulatory office (RO) and MWSS and (c) to finance the local counterpart portion and cost overruns of ongoing investment projects

At the start of the year, MWSS provides each concession the schedule of all anticipated amount due in connection with the concession fee payable during that particular year. MWSS shall inform the concessionaires the total amount due for any scheduled payment of principal, interest, fees or other amount that is due under existing MWSS loans. In the case of MWSI, the concession fee includes 90% of the aggregate peso equivalent due under any MWSS loan (including MWSS loans for existing projects and the UATP project). MWCI, on the other hand, covers the 10% of the aggregate peso equivalent due under any MWSS loan. The % of distribution of debt service obligation is based on the extent of loans extended for projects previously implemented in the respective service areas of MWSI and MWCI.

Each concession also pays each year for the one-half of the current operating budget of the RO and MWSS, subject to annual CPI adjustment.

Each concession fee shall be treated as an expenditure of the concessionaire. In case the concessionaire fails to pay the concession fee, the US dollar equivalent of the unpaid amount may be drawn under the performance bond.

4. Comparative Analysis I ~Service-related Performance~

4.1 Service Coverage

The coverage or franchise areas of MWSS includes the 12 cities and 5 municipalities that comprise Metro Manila, plus 6 towns of Cavite Province to the south and 14 towns of Rizal Province to the east. The entire MWSS service area is now divided into two zones by the concession agreement. The East Zone (MWCI) covers 6 cities¹ and 17 municipalities. The West Zone (MWSI) covers 10 cities¹ and 7 municipalities. (Figure 4-1)

Prior to privatization, MWSS was able to cover 66% of the franchise area in 1992. This dropped to 61% in 1996 implying that MWSS has not been able to keep pace with the demand. (Table 5-2) The population increased by 14% during 1992-1996, while the number of connections increased by only 5% for the same period. In fact, the population served was on a downward trend from 1992 to 1996.

After privatization, the served population started to rise from 62% in 1997 to 75% by 2002.² While the population increased by 9% from 1997 to 2002, the served population increased by 32% for the same period. While the percentage of the population served had been seeing 1% reduction per year, the ratio was increased by 2.6% per year when the services were turned over to the 2 concessionaires. Net work development by MWCI and MWSI is shown in Table 4.1.

Most of MWCI's expansion of service lines can be seen from a comparison of the two water availability maps of the pre-MWCI and first quarter 2003. Refer to water availability maps (Figure 4-2).

No maps are available for MWSI to indicate where the expansions were made. However, a list of pipeline capex projects indicate that out of 5 business areas of MWSI, approximately 74% of extension pipelines laid were in the North East (36%) and North West Business Area.

Table 4-1: Network Development

	Pipeline length before 1997 (km)	Pipeline length 2002 (km)	% Increase
MWCI	1,782	2,000	12%
MWSI	2,534 ³	3,356	32%

Source: MWSS

¹ East Zone covers the cities of Mandaluyong, Makati, Markina, Quezon City and Pasig in MM. West Zone covers the cities of Manila, Pasay, Quezon City, Calocan, Las Pinas, Malabon, Munitnlupa, and Paranaque in MM. Some areas of Makati, Manila, and Quezon City are shared between MWCI and MWSI.

² As of 1st Quarter.

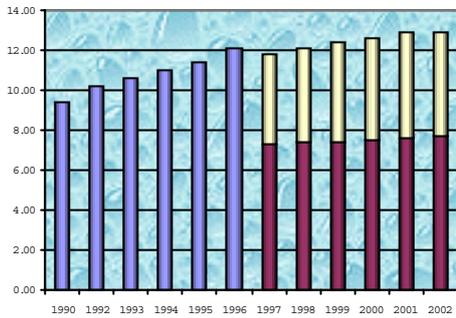
³ Beginning figure (pre PPP) for pipeline length still being disputed by MWSI and MWSS-RO

Figure 4-1: Service Coverage Area Maps

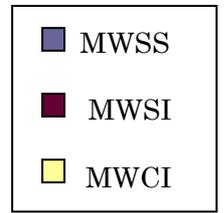
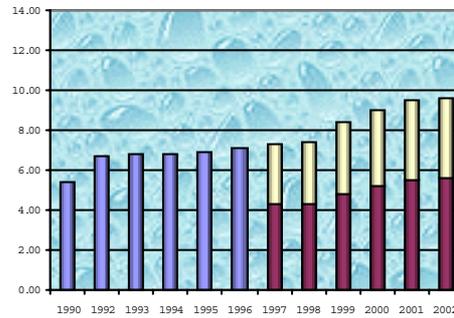


Source: MWCI Power-Point Presentation – The Manila Water Story (January 2003)

Franchise Area Population (M)



Population Served (M)



Population Served (%)

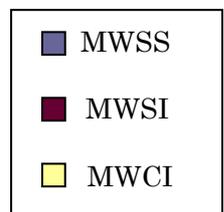
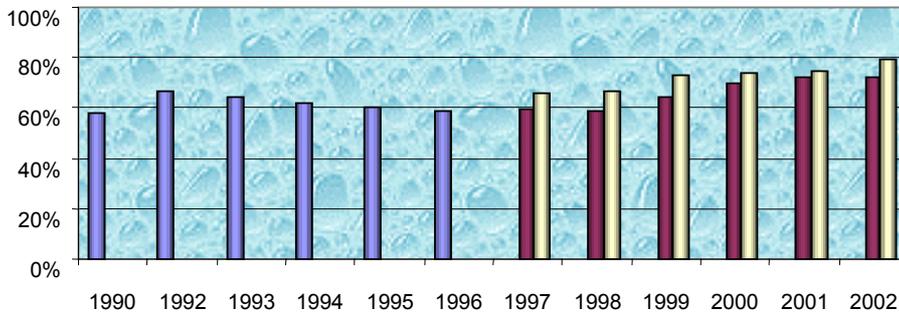


Table 4-2: Service Coverage

		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Franchise Area Population Population a/ (in millions)	MWSS	10.15	10.56	10.98	11.61	11.80	11.80	12.08	12.35	12.63	12.75	12.88
	MWCI	-	-	-	-	-	4.54	4.72	4.90	5.08	5.11	5.14
	MWSI	-	-	-	-	-	7.26	7.36	7.45	7.55	7.64	7.74
Service Connections b/	MWSS	746,051	746,730	747,400	752,801	779,380	792,855	808,784	908,749	980,176	1,030,189	1,048,059
	MWCI	-	-	-	-	-	325,527	340,037	390,350	408,894	427,755	443,245
	MWSI	-	-	-	-	-	467,328	468,747	518,399	571,282	602,434	604,814
Population Served c/ (in millions)	MWSS	6.75	6.78	6.82	6.87	7.09	7.30	7.44	8.36	9.01	9.48	9.64
	MWCI	-	-	-	-	-	3.00	3.13	3.59	3.76	3.94	4.08
	MWSI	-	-	-	-	-	4.30	4.31	4.77	5.25	5.54	5.56
% Pop Served d/	MWSS	66%	64%	62%	60%	61%	62%	62%	68%	71%	74%	75%
	MWCI	-	-	-	-	-	66%	66%	73%	74%	75%	79%
	MWSI	-	-	-	-	-	59%	59%	64%	70%	73%	73%

a/ from NCSO data, growth rate is 4.02% from 1990 to 1995 and 1.62% from 1995 to 2000.

b/ from JICA and Thames 1996 Report & from concessionaires.

c/ MWSS connections (1990-1996) x 8.1 persons/connection + served pop from public faucets. Concessionaires and MWSS RO have agreed to use connection x 9.2 for 1997-2002.

d/ obtained by dividing served population by Franchise Area pop. Figures of concessionaires differ from Table 5-12 as the denominator used by MWCI is the total franchise population less those legally connected to private wells or water districts. For 2001, population served as per record of MWCI is 82% and for MWSI is 83%.

Figure 4-2: Water and Sewerage Connection

Water Connections (K)

Sewerage Connections (K)

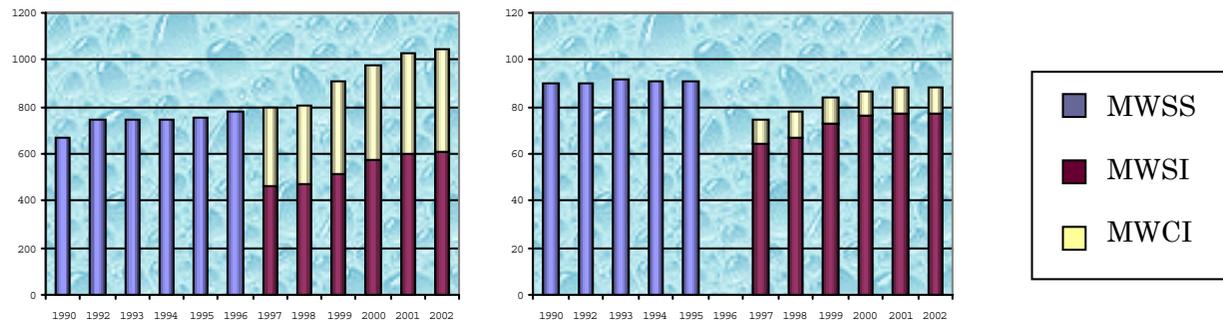
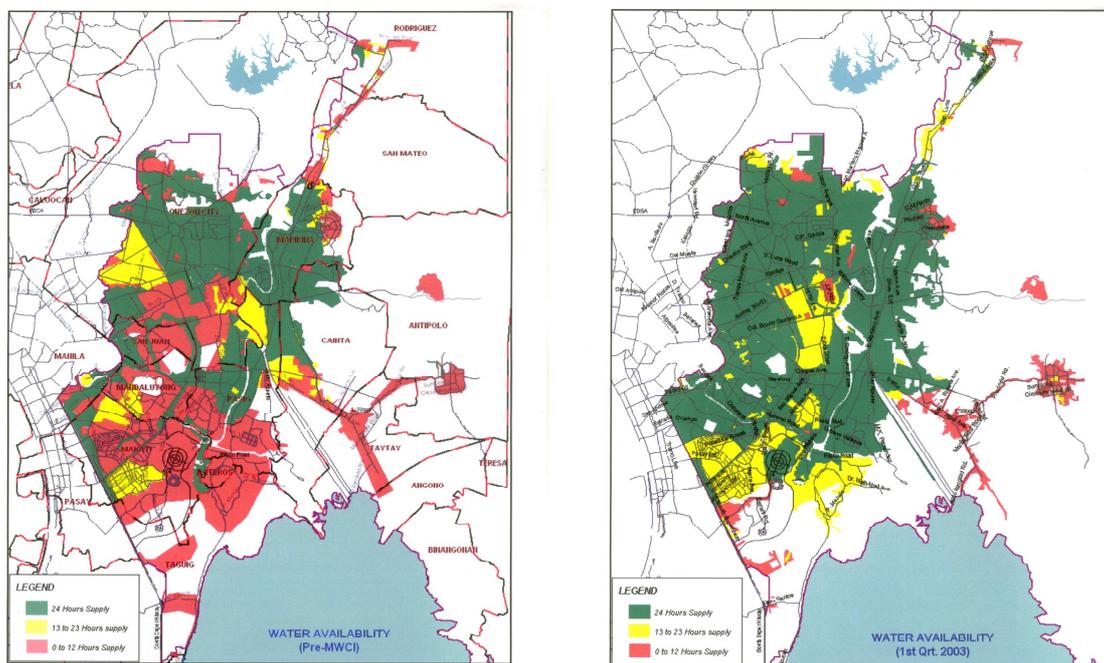


Figure 4-3: MWCI water availability east zone, (left) before, (right) after



Source: MWCI

4.2 Water Availability and Line Pressure

In 1996, before MWCI and MWSI operated the system, the average water pressure was 3-5 psi and Water availability was 17 hours a day. The domestic per capita consumption was calculated⁴ to range from 126 to 128 liters per day from 1992-1996. The per capita consumption has remained almost constant as it was constrained by water supply conditions, the limited number of hours of water availability, high NRW, and low water pressures.

A survey conducted by the NJS consultants⁵ on 350 respondents yielded noteworthy results. (Table 4-3)

Table 4-3: Water Supply Status⁵

Area	Income Level		
	Low	Middle	High
NCR	low pressure	satisfactory	satisfactory
Rizal	satisfactory	expensive	satisfactory
Bulacan	-	satisfactory	satisfactory
Cavite	satisfactory	-	-

Although customer service was rated as generally satisfactory, respondents in Rizal and Metro Manila complained of low water pressure and frequent interruption of water supply. They also believed water was expensive.

After privatization, 84% of MWCI service is supplied with 24-hour water at an average pressure of 8psi. MWSI had 24 hours water service for 60% to 82% of its service area at average pressure of 8-10 psi. On average, both concessionaires provide water for 21 hours

⁴ Binnie-Thames Report, 1996.

⁵ JICA Report, 1996.

within their service areas. In terms of consumption, MWCI's was 131 liters per capita per day (lpcd) in 2002 which is 4% more than the pre-privatization period while the MWSI figure started at 119 lpcs in 1997 and went down to 105 lpcd in 2002. Because water pressure and availability are almost the same for both concessionaires, the difference in consumption patterns can be attributed to the price of water. The MWSI water charges more than MWCI.

The MWSS RO office, in collaboration with World Bank, has conducted a Public Assessment of Water Services (PAWS) Project in pilot areas all over the service area. The project objective is to evaluate the performance of the two concessionaires in the delivery of potable water to the consumers. The key results of the 2002 PAWS survey are as follows:

- There has been substantial improvement in water distribution service in Metro Manila since the turnover to the private concessionaires.
- Of the 10,000 households in the pilot survey, 33% believe that service is better, 55%, same as before and 12% worse than before.
- Water quality ratings are consistently good.

4.3 Quality of Water

From 1994-1996, 88% to 90% of samples taken by MWSS passed the bacteriological tests. (Table 4-4) This is lower than the required 95% passing rate required in the Philippine National Standards for Drinking Water (PNSDW). Chlorine residuals⁶ taken from samples were close to the minimum requirement of 0.2 mg/L.

Table 4-4: Water Quality Compliance Data

	MWSS (1994-1996)	Concessionaires (1997-2001)	Requirement
Frequency ^{a/} Compliance	100%	100%	100%
Satisfactory Compliance	90%	>98%	95%
Chlorine Residual Mg/L	0.2	0.6	0.2

^{a/} There are required number of samples for a given number of connections.

Both MWCI and MWSI had initial difficulties in meeting the 95% satisfactory compliance for bacteriological tests during the first few months of operations. But they are now above the threshold (more than 98% satisfactory compliance). Their average chlorine residual of samples taken is about 0.6 mg/L, three times the minimum requirement. Water quality has definitely improved with the privatization. Other indicators of water quality are shown in Table 4-5.

⁶ The amount of chlorine remaining after it has oxidized organic material and bacteria in the water.

Table 4-5: Other water quality indicators

Parameter	PNSDWSStandard	Before PPP(MWSS)	2002 Values	
			MWSI	MWCI
Ph	6.5 – 8.5	7.04	7.2	7.3
Turbidity	Unobjectionable	ok	ok	ok
Bicarbonates	200 mg/l	70	59	63
Hardness	300 mg/l	68	40	38
Chlorides	250 mg/l	5.4	7.2	4.8
Iron	1 mg/l	0.05	0.02	0.09
Manganese	0.5 mg/l	—	<0.05	<0.01
Sulfates	250 mg/l	—	14.2	11.4
Cyanide	0.07 mg/l	—	<0.003	<0.001

The quality of raw water coming from Angat Dam (which accounts for 97% of total supply) is proven to be of good quality - almost 100% of samples taken for physical and chemical analysis pass the PNDWS even before 1997.

4.4 Non-Revenue Water (NRW)

Non-revenue water (NRW) is the amount or percentage of the water distributed (after treatment from the plants or deep wells) that does not bring in any revenues for the utility. It is determined by subtracting the billed water from the distributed water.⁷ NRW is divided into physical and commercial losses. Physical losses results when water does not reach the consumers due to leakage or broken mains and pipes. Commercial losses arise when water is being used but do not bring about any revenues. This is caused mainly by pilferage, illegal connections, metering losses or operational uses.⁸

Prior to privatization, 1992-1996, NRW by MWSS was from 55% to 61%. To give an example of the components of the MWSS NRW, the estimates for 1995 were as follows⁹:

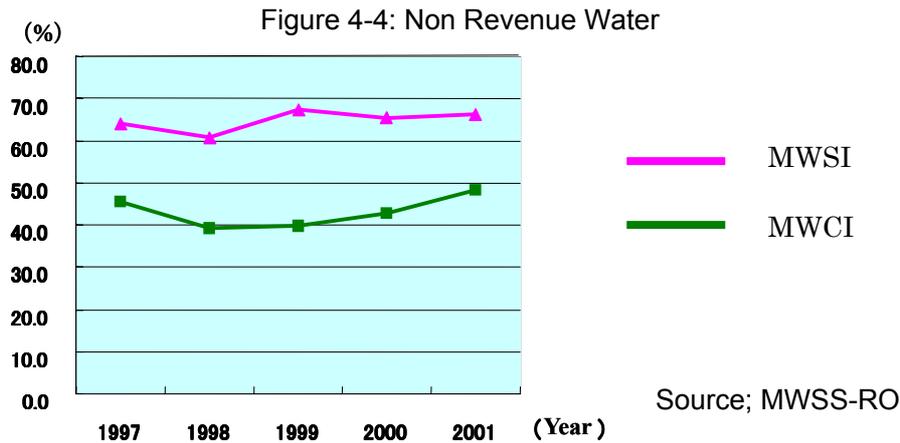
Physical losses	35%
Commercial losses	22%
pilferage	8%
meter losses	12%
operational use	2%
Total	<u>57%</u>

Despite serious attempts, MWSS was unable to bring down the level of NRW. The 380 operational water districts under the Local Water Utilities Administration (LWUA) register only an average of 32% NRW, way below the MWSS level of 57%. MWSS invested a total of over ₱3B from 1985-1994 on two rehabilitation projects to reduce NRW without any results. Although some improvements were seen during the implementation of these projects, the gains proved to be unsustainable.

⁷ Or dividing the billed water over the water distributed to get the ratio.

⁸ Filter backwashing, mains flushing, firefighting, etc.

⁹ JICA Master Plan, 1996.



Here, reducing NRW must compete with the objectives of increasing the number of hours of water availability and line pressure. Given the age and state of the pipes, increasing water pressure for longer duration will translate into more leakages. The leakage at a given pressure is raised to the power of $1 + 1.5$ by the new pressure. In other words, increasing the pressure by 100% will raise the leakage by 150%. The MWSS RO reports that the number of leaks repaired per year after privatization was 43,517, a dramatic 112% increase compared to 20,600 in 1996, due largely to the greater line pressures.]

Methods for NRW Determination and Reduction

Manila Water Company, Inc. (MWCI)

The strategy adopted by MWCI for Non-Revenue Water (NRW) determination and reduction were as follows:

- Leakage Detection;
- Network Rehabilitation;
- Regularization of Illegal Connections;
- Replacement of Defective Meters; and
- Pressure Management Through Use of RRVs

The above programs were based on a territory management concept wherein the East Zone was hydraulically divided into 43 Demand Monitoring Zones (DMZs) which consists of approximately 10,000 connections. The DMZs were further divided into smaller hydraulically discrete zones called District Meter Areas (DMAs) consisting of 1,000-2,000 connections. Each DMZs and DMAs was individually metered.

The territory management concept enabled MWCI to prioritize action on areas with high NRW like Marikina, San Juan/Mandaluyong, Pasig and Cubao.

The NRW level of MWCI was 55% in 1997 and was still 58% in 2001. Below are possible reasons why the results may not have materialized (Figure: 4-4):

- The expenditure on NRW was cut back in 1999 and moderately increased in 2000. Please see NRW Yearly Expenses table below.
- Increase in average pressure in the East Zone from 3 psi in 1997 to 8 psi in 2001 as the Cross Boundary Flow (CBF) from East Zone to West Zone decreased from 347 MLD in 1997 to only 159 MLD in 2001. (The increase in pressure translated to more leaks.)

Table 4-6: NRW Yearly Expenses in PhpM

Year	1997	1998	1999	2000	2001	Total 1997-2001
OPEX	277	370	314	300	187	1448
CAPEX	31	73	73	174	261	612
Sub-Total NRW Expense	308	443	387	474	448	2060

Source; MWC

Maynilad Water Services, Inc. (MWSI)

The MWSI set out in its bid documents the following programs to reduce its NRW:

- Replace 450,000 meters in the first five years
- Install meters in and out of Pumping Stations
- Install twelve (12) interconnection meters and by corollary nine (9) electromagnetic and three (3) ultrasonic
- Detection of Illegal Connections starting with large meters but initially dealing on a voluntary basis. Investigate 2,000 large customers
- Launch an operational and maintenance plan to dramatically reduce existing leaks and improve pressure
- Replace pipes and service connections

1997-2000	28kms. of ACP pipes 560 kms. of secondary and tertiary pipes 100,000 service connections
2000-2006	30 kms. of primary pipes 185 kms. of secondary and tertiary pipes 130,000 service connections
2006 onwards	668 kms. of pipes

Source; MWSI

- Clean up customer database and improve meter reading practices
- Support with Geographical Information System (GIS)

Unfortunately, there was no planned strategy until April 2000, which appears to have been meter replacement, mains replacement and leak repair in a passive (reactive) way. Again, such strategy was not implemented until November 2000 and lasted only until June 2001.

The NRW level of MWSI increased by 4.31 percentage points from an average of 64.07% in 1997 to an average of 68.38% as of the 3rd Quarter of 2002. This is way below its bid target of an average of 29.8% for 2002 (Figure:4-4) and the reasons for non-attainment may be attributed to the following:

- The practice to walking the line (the most basic and effective method of finding, leaks by walking along the routes of mains) was not systematically introduced until two (2) years after the start of the Concession;
- Consistent, reliable and consolidated leak report system was not introduced until 2000;
- MWSI indicated that about 5,000-10,000 class C meter were installed initially which have subsequently had to be replaced. Following a site visit, a figure of 30,000 was quoted. The bigger concern however is that such a large number should be installed in the first place only to be replaced a few years later in a span much less

than the asset life of the meters;

- No centralized task force devoted to illegal detection and regularization until 2001. It took MWSI nearly three and a half (3½ years to do so when reducing illegal connections was quoted as a corner stone of NRW reduction strategy in the bid document;
- There was no activity based capture of costs or expenditures; and
- The backlog of leak repair was at an average of 10-11 days work.

Measurement methods of NRW in each concessionaire are as follows.

a. MWCI

The formula is NRW volume = Total Production less billed volume. Total production is from treatment plants and deep-well while billed volume comes from billing records including sales to MWSI (known as cross border flow or CBF).

b. MWSI

The same formula for NRW volume as given above is followed. However total production is from treatment plants plus deep-wells plus CBF. Billed volume is from billing records.

4.5 Staff Productivity

One way of measuring the efficiency and productivity of a utility is by calculating how many employees are in the utility and compare with the number of connections made by that utility. The indicator is often measured as number of staff per 1,000 connections. Table 4-7 provides data on MWSS prior to privatization.

Table 4-7: Staff/1,000 Connections

	1992	1996
No. of connections (households)	746,051	769,000
No. of personnel ^{a/}	8,325	7,541
Staff/1,000 connections	11.2	9.8

^{a/} Includes permanent and casual.

Source: MWSS

While there is an improvement from 1992 to 1996, the ratio of 9.8 indicates some overstaffing and inefficiencies for a utility company with economies of scale. This is if the MWSS record is to be compared with Jakarta (5.9), Bangkok (4.5), Kuala Lumpur (1.1), even Cebu Water District (9.3), and Davao City (6.2).¹⁰

At the start of its operations in 1997, MWCI as part of its contractual obligation had to absorb 2,165 MWSS staff¹¹ who were assigned in the East Zone area. From 6.3 staffs per thousand connections in 1997, MWCI registered a ratio of 3.2 in 2002. This was achieved by an increase of about 117,700 connections while reducing the number of employees during the same period. To illustrate such a marked improvement in efficiency, the Balara Treatment Plants 1 & 2 used to be manned by more than 200 staffs in 1996. In January 2003, only about 40 employees were running the 2 treatment plants.

MWSI on the other hand also had to absorb the MWSS staff assigned to the West Zone. From 6.8 staff/1,000 connections in 1997, MWSI attained a ratio of 4.0 in 2002. This was achieved

¹⁰ ADB Second Water Utilities Handbook, 1997

¹¹ Those who did not retire.

by an increase of about 136,000 connections over 5 years while reducing the number of employees from 2,970 to 2,427 for the same period.

While the 2 concessionaires have done tremendously well in staff productivity, the reduction in the number of personnel may not have translated into cost savings in personnel costs. For example, in year 2001, the average annual cost per employee is ₱312,000 for MWCI and ₱409,000 for MWSI.

If the average employee cost of MWSS in 1994 was ₱105, 192¹² and allowing for inflation of 8.84% per year, the equivalent MWSS cost/employee in 2001 would be ₱170,300. The average cost per employee of the 2 concessionaires is ₱360,500. Of course, one could argue that better paid staff are well motivated and in the long run become more productive.

Table 4-8: Operational efficiency of the Concessionaires

	MWCI	MWSI
Personnel cost/employee (in Pesos)	312,000	409,000
Operational cost/m ³ (in Pesos)	4.05/m ³	10.45/m ³
Average time to repair leaks ^{a/}	4 days	11 days

^{a/} Source: MWSS-RO rebasing study

Efficiency gains are evidently starting to be achieved as the two concessionaires prioritized efforts to cut on operational costs. The performance of the two companies however differs quite significantly. Although one can argue about probably the difference in the situations within which they operate (e.g. condition of pipes, etc.), there are certain aspects of their operations that could offer calculated explanations why one concessionaire tend to perform than the other. For example, MWSI seems to spend more on a per cubic meter of water compared to MWCI (Table 4-8). Personnel costs for MWSI seem to be on the high side as well. It takes twice as much time for MWSI compared to MWCI to respond to reported leaks, perhaps a big factor why MWCI is able to reduce its NRW.

But reducing NRW continues to be a huge problem and a source of controversy in the assessing the impact of privatization, even as MWCI reports a steady reduction in its service area. In any case, losses from NRW stand at more than half of billed volume, still very high by any standard. There are two key issues involved here: One is the lack of unanimity in the extent of NRW on a per zone basis. Benchmarking is therefore difficult. Secondly, the Concession Agreement is a bit ambiguous in the targets set for each concession.

4.6 Sewerage and Sanitation

MWSS. There were 4 independent sewerage systems (all located in Metro Manila) in operation in the study area, all of which were separate collection systems under MWSS supervision up to 1997. These are the Central System, the Ayala System, the Dagat-Dagatan System, and the Quezon City Separate System. Only two of these systems (Ayala and Dagat-Dagatan) could measure the wastewater quality of the influent.¹³ A JICA 1996 Report says that for 1994, the efficiency of the Ayala and Dagat-Dagatan systems for BOD¹⁴ and SS¹⁵ removal were as follows:

¹² Obtained by dividing P824M Personnel cost by 7,796 employees.

¹³ Going into the sewerage treatment plant.

¹⁴ Liquid waste after treatment.

¹⁵ Biochemical oxygen demand (BOD) is the mass of oxygen required by microorganisms to oxidize the organic content of the waste. It is an indirect measure of the concentration of biodegradable material present.

Table 4-9: BOD and SS Connections in the Ayala and Dagat-Dagatan Sewerage Systems

Parameter	Ayala			Dagat-Dagatan			Limits ^{a/}
	Influent	Effluent	Removal (%)	Influent	Effluent	Removal (%)	
BOD(mg/L)	196	72	63	62	9	87	50
SS (mg/L)	75	44	41	78	19	76	70

^{a/} for Class C Bodies of Water

In 1994, total volume of sewage treated was 210,000m³/day. The Department of Environment and Natural Resources (DENR) sets the limit of BOD and SS concentration at 50 and 70 mg/L, respectively, for effluents. Even with a 63% removal efficiency, Ayala effluent still exceeded the BOD limit. MWSS (Figure 4-3) had about 71,600 sewer connections of total number of connected to the water system prior to privatization.

In areas where the MWSS sewerage system is not available, septic tanks are mandatory as a sanitary facility according to the sanitation and building codes of the country. The sanitation service provided by MWSS is desludging septic tanks¹⁶ (for those not connected to the sewerage system) and disposal of the septage. MWSS had been able to desludge only 390 tanks in 1992 increased to 1,623 in 1995. The private sector has been able to desludge nearly 3 times more than MWSS. Septic tanks need to be desludged at least once every 10 years. With an estimated 600,000 septic tanks in the study area and an annual desludging rate of 5,400¹⁷ septic tanks, the desludging return cycle is about 100 years. This means that most septic tanks in Manila were not being desludged during their lifespan, implying the discharge of fresh sewage into drainage systems and surface drainage channels of the metropolis.

MWCI. The number of sewer connections in the East Zone remained static from 1997 to 2002. (Figure 4-3) The reason advanced by MWCI is that they have already attained the concession agreement target of 3%, which is the case from 1997 to 1999. The MWCI sewerage ratio has gone down to 2.5% by 2001 because of the increase in the number of water connections.

MWCI is responsible for operating the Ayala Wastewater treatment plant and the Karangalan Sewerage System in Cainta. The Ayala system, which covers the Makati commercial and residential areas treats the wastewater before being discharged into creeks. The system is in need of intensive repairs and rehabilitation. As compared to the central system of MWSI, the influent BOD content of the Ayala System is two times higher due to the higher commercial activity in Makati.

The Ayala Wastewater Treatment Plant (WTP) often fails to meet the acceptable BOD, SS and coliform standards of the DENR. The Karangalan Bio-Module, however, has been found to be complying with the DENR standards.

From about 330 septic tanks desludged in 1998, MWCI had been steadily increasing their sanitation services to 1,368 tanks in 2001, almost the same number the MWSS desludged in 1996 for their entire franchise area. Still, MWCI was able to desludge only 2,762 tanks as of end of 2001, short of their 38% concession agreement target.

MWSI. Figure 4-3 shows the record of MWSI in sewerage. The MWSI franchise population increased annually by 7%. It increased its water connections by 29% while sewer connections rose by 15%. While sewer connections grew more than the population increase, the increase was less than the increase in water connections. Moreover, MWSI was not able to meet its bid

¹⁶ Septage collection.

¹⁷ MWSS and private sector combined in 1995. From MWSS Corplan and JICA Report.

commitment of a 74% increase in sewer connections by 2001.

MWSI is responsible for the Submarine Outfall at the Manila Bay, the Dagat-Dagatan Oxidation Pond and the Communal Septic Tanks in Projects 7 and 8. For the Dagat-Dagatan Pond, MWSI has not met all the DENR standards for effluents. The communal septic tanks have not been meeting the standards for Class C water and MWSI has so far not been able to initiate measures to address the situation.

From 60 septic tanks desludged in 1997, MWSI had been steadily increasing their desludging services to 6,452 tanks by 2001, about 4 times the number MWSS had been able to desludge in 1996. Septage is disposed in the Dagat Dagatan sewage treatment plant, a practice that has been cleared by the DENR. MWSI failed to meet the 33% sanitation target for 2001 as set out in the Concession Agreement.

Meanwhile, MWSI is monitoring the following:

- a) Manila Bay for baseline information prior to the completion of a sewage project that will enable them to do septage-dumping operations in the ocean.
- b) Several areas to determine effects of septage discharge at the Dagat-Dagatan area
- c) Sound/noise levels in 10 of their facilities utilizing booster pumps. The DENR standards for noise levels are being met.

Impact of sewerage and sanitation practices on the environment

According to a JICA report in 1996¹⁸, as of September 1994, all of the river systems in Metro Manila were considered biologically dead except for the upper stream of Marikina River. They are in this condition throughout the year except for Pasig River, which has a natural flushing capacity from the Laguna de Bay during the rainy season. The Laguna de Bay has been found to have high levels of nutrients that could trigger blooms of harmful algae as a partial result of increasing nutrient domestic waste load from households. World Bank¹⁹ has estimated that domestic wastewater is responsible for 40% of the estimated BOD load being discharged into bodies of water.

Although both concessionaires offer service connections to public sewers, the take-up has been extremely low due to the high cost of both the connection and the resulting additional charges to the monthly water bill. This is the case because almost all of the plants under the control of the concessionaires do not comply with the DENR standards and since they continue to fail to meet sanitation targets, the risk of metro Manila contaminating further its river systems will intensify over time. Mitigating this will entail massive funding for sanitation and sewerage projects as well as political will to enforce constant provisions in this regard.

4.7 Tariff of Water Services

In 1996, before the private concessions took over MWSS operations, the cost of producing and distributing water was ₱4.1/m³. Applying inflation, the cost would be ₱6.15/m³ in 2002 if MWSS continued to operate the system (Table 4-10). For the concessionaires, the cost in 2002 was ₱8.76. This implies that the operating cost per cubic meter is higher after privatization than what it would cost if the water service was provided by a public utility (i.e. MWSS).

However, a comparison of the average water tariffs before and after privatization will show

¹⁸ JICA Report 1996

¹⁹ ICEB WB Report, 1992.

the benefits to consumers of PPP in water service delivery (Figure 4-5) . For the first few months of 1997, the MWSS tariffs were raised by 20% to ₱8.81/m³.²⁰ This tariff charged by MWSS in 1997 is even higher than what the consumers were paying in 2001 under the two concessionaires, i.e., MWCI, ₱4.32 and MWSI, ₱8.28. Note that the 2002 water tariffs of the Davao City Water District²¹ and Subic Water²² are ₱9.06/m³ and ₱13.66/m³, respectively.

Table 4-10: Cost and Tariff Comparison

		1994	1995	1996	1997	1998	1999	2000	2001	2002
Opex Cost ^{a/} Per billed m3 (₱)	MWCI	-	-	-	5.46	5.11	4.83	4.62	4.45	5.11
	MWSI	-	-	-	6.02	7.56	8.42	8.46	10.45	12.40
	MWSS	3.41	3.8	4.1	-	-	-	-	-	-
Inflation (%)		-	9	9	6	10	7	4	6	
Average water ^{b/} Tariff ₱/ m3	MWCI				3.32	3.32	3.61	3.76	4.32	
	MWSI				5.96	5.96	6.8	7.13	8.28	
	MWSS	6.43	6.43	7.411	8.87 ^{c/}	-	-	-	-	

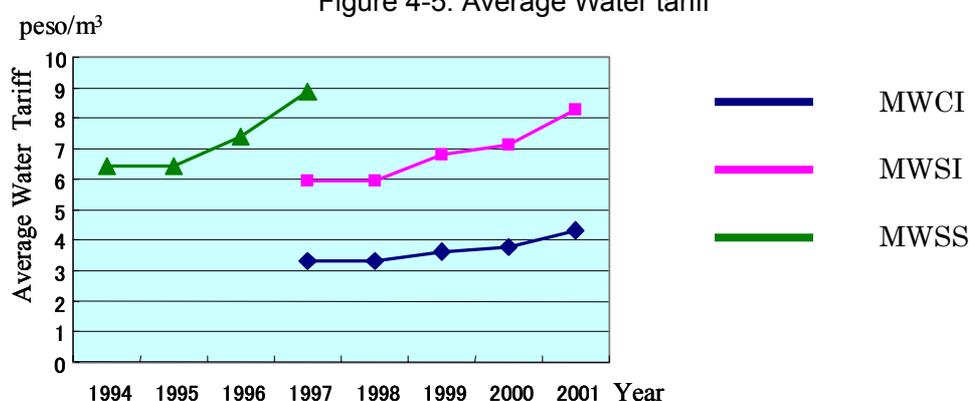
^{a/} from JICA Report 1996 and MWSS RO. Operating expenditures include personnel, treatment, energy, maintenance, and sundry expenses.

^{b/} from WB Study – MSSP Financial Supervision of MWSS Sep 2002. Ave. water tariff = base tariff + EPA + FCDA + CERA

^{c/} first 7 months of 1997

In both the MWSS and the concessionaires' cases, the operating policy for new connections is a fixed charge for connections up to a distance of 25 meters from the water line. In excess of 25 meters, applicants are required to pay for the actual additional costs involved. In 1996, MWSS charged P3,000 for a new connection. In 2002, the concessionaires were collecting P4,250, the difference to account for inflation.

Figure 4-5: Average Water tariff



4.8 Tariff of Sewerage and Sanitation Services

Similarly, charges for connecting to sewer system are calculated by the MWSS and the concessionaires in the same manner – a fixed rate equivalent to the fee for a new water connection if the distance of the household is within 25 meters from the sewer line. For sanitation services²³, there was no charge provided the services (e.g. desludging) are carried within the scheduled service for the particular area. The monthly sewerage tariff (by both

²⁰ Opportunities and Risks in the Privatization-Regulation of the MWSS by Solon and Pamintuan, 1999.

²¹ The largest WD in the Philippines with over 140,000 connections.

²² A private utility covering Olongapo City with 23,000 connections.

²³ Septic tank desludging.

MWSS and the concessionaires) is pegged at 50% of the water charge (net of miscellaneous charges and VAT).

4.9 Summary of Service-related Performance

Undoubtedly, there is a general improvement in the provision of water and, to some extent, sanitation services in Metro Manila as a result of the privatization. Water is now available to a greater number of residents, with the number of connections increasing by 30% in just a span of 5 years, a feat that would have taken MWSS 30 years to do (Table 4-11). On the average, households now enjoy 21 hours of water availability, at a decent pipe pressure and of water quality that is about the nationally-set standard of potability. In fact, more than 80% of all households connected to the MWCI and MWSI systems have access to water 24 hours a day (Table 4-11). This kind of service is provided with less number of personnel involved, from about 10 staffs when MWSS was operating the system, to 4 employees after takeover by the concessionaires.

While water services have tremendously improved, sewerage remains a big problem even with private sector operating the system. The agreed targets with the concessionaires (as set forth in the Concession Agreement) are already very low (14% of households connected to the water system, in the case of MWSI and 3% MWCI, see Table 4-12). Yet, actual connections are still below these targets. The low accomplishments in the sewerage connections can be attributed to the delayed implementation of the Manila Second Sewerage Project (MSSP). Further, the rationale for setting very low targets for sewerage connections in the Concession Agreement, aside from low accomplishment prior to privatisation, is the high investment cost for sewerage project and the attendant difficulty of cost recovery as such. The performance of the concessionaires are even more dismal in sanitation, with accomplishments way below the goal of 33% and 38% of the requirement as committed by MWSI and MWCI, respectively. Wastewater from the system (during the watch of MWSS until today) remains a serious concern as it still does not conform to accepted levels of coliform and other contaminants. There is however a substantial increase in the number of septic tanks desludged annually by the concessionaires compared to the track record of MWSS.

Table 4-11: Comparison of the Performance of MWSS and the Concessionaires

Service Indicators	MWSS (1992-1996)	Concessionaires (1997-2001)
Population served (millions of people)	5% increase over 5 years	30% increase over 5 years
Service connections (number of connections)	4.5% increase over 5 years	30% increase over 5 years
Water quality (compliance with national standards)	90%	99%
Water availability	17 hours per day	21 hours per day
Water pressure (average line pressure)	5 pounds per square inch (PSI)	10 pounds per square inch (PSI)
NRW	61%	57%
Sewerage connections	Less than 1% increase per year	Increase of 2.7% per year
Compliance to wastewater standards	Not complying	Not complying
Septic tanks desludged	Average of 850 tanks/year	Average of 1,840 tanks/year
Staff/1,000 connections	9.8	4.1

Table 4-12: Performance of the concessionaires relative to their obligations under the Concession Agreement (as of 2001)

Service Obligation	MWCI		MWSI	
	Agreed Targets	Actual	Agreed Targets	Actual
Water supply coverage	77%	82% ^{a/}	87.4%	83% ^{a/}
Sewer coverage	3%	2.5%	16%	14%
Sanitation	38%	1%	43%	7%
Water quality	Compliance with standards	Complied	Compliance with standards	Complied
24 hours water supply	100%	84%	100%	82%
Minimum water pressure of connection to primary lines	16 psi	10 psi	16 psi	10 psi
Wastewater quality	Comply with all environmental standards	non-complying	Comply with all environmental standards	non-complying
Non-revenue water	non-explicit	from 63% to 53%	non-explicit	68%
Staff/1,000 connections	non-explicit	3.7	non-explicit	4.3

^{a/} Denominator is franchise population less those with legal connections to a private source.

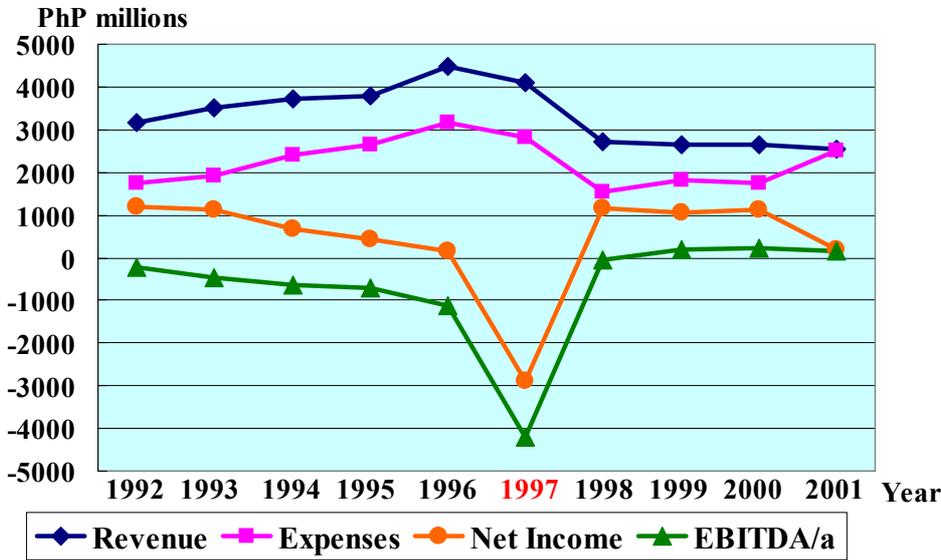
5. Comparative Analysis II ~Financial and Operational Performance~

5.1 Financial Performance of MWSS

Income. Prior to PPP, the financial performance of MWSS continued to decline significantly. The MWSS net income in 1995 was P491 million compared with the net income in 1993 of P1,120 million, representing a 56% drop over a two year period. Operating inefficiencies substantially contributed to the deteriorating financial performance of MWSS. Operating revenues grew by 28% from 1993 to 1996 while operating expenses grew by 66% on the same period.

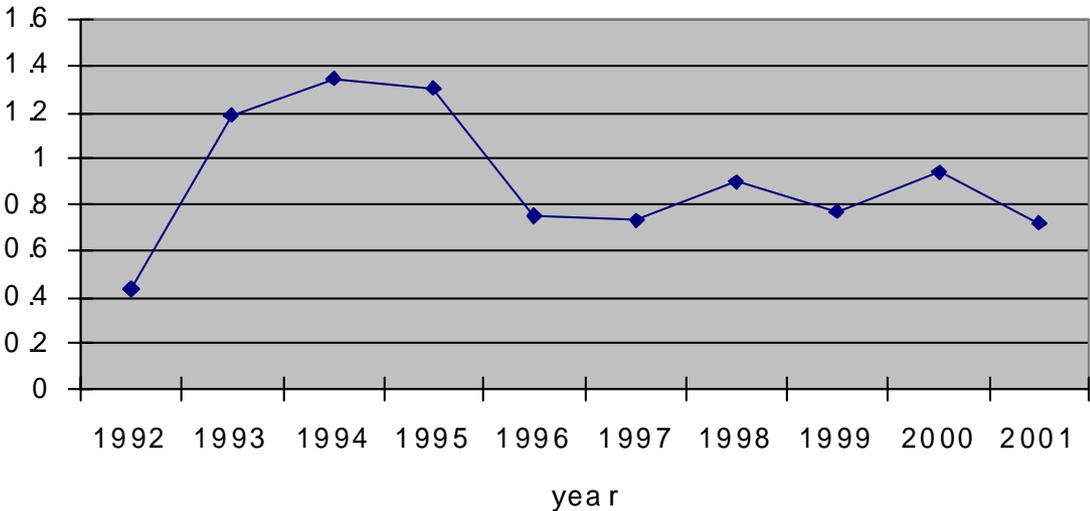
After PPP, revenue and net income mainly induced from concession fee are stable except in 2001(Figure 5-1).

Figure 5-1: Revenue & Income ~MWSS~

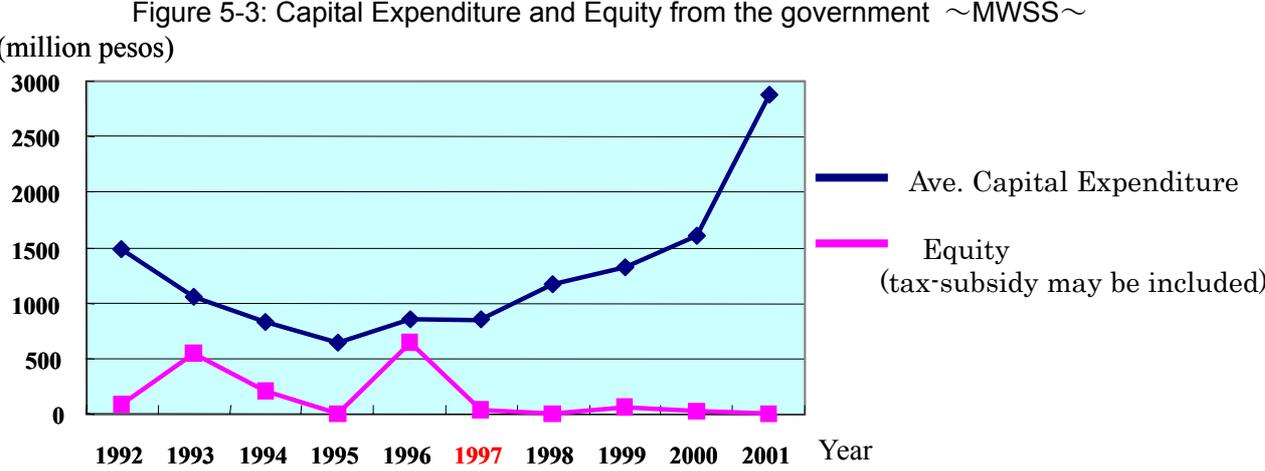


Debt service. The cash from operations was insufficient to service the debt obligations of MWSS prior to PPP. Annual debt service requirements averaged to roughly P1,980 million in 1993 to 1996 (Figure 5-2).

Figure 5-2: Ratio of Debt service/Cash from operation of MWSS



Capital expenditures. Capital expenditures of MWSS declined steadily from P1, 484 million in 1992 to P639 in 1995. The relatively low capital expenditures had resulted to a steady deterioration of MWSS operations (e.g. lack or inadequate maintenance of the network, slow replacement of leaking pipes, etc.). In turn, this led to a consistently high NRW of MWSS. For the post-PPP, however, capital expenditures increase gradually due to the on-going project (Figure 5-3).



Government support (equity). MWSS relied for government support in the form of subsidies and equity infusion to service its financial obligations. The government extended roughly P1, 488 million to MWSS in the form of equity from 1992 to 1996. After PPP, there was little equity induced from the national government (Figure 5-3).

Key factors affecting financial performance include tariff setting (and the ability to adjust in response to changing parameters), operating costs, and financing costs, etc.

Operating costs. The operating expenses of MWSS steadily grew by 66% from 1993 to 1996, with personnel costs contributing approximately 38% of the total operating expenses (Figure 5-4).

Availability of cheap financing. MWSS relied heavily on ODA as the major source of relatively cheap financing particularly from the World Bank and ADB to finance capital projects. Borrowing foreign currency-denominated loans especially from official sources was clearly a sound business decision as foreign exchange rates remained relatively stable prior to PPP and budget constraint was not as acute as it is now. For the post-PPP, long term loan is still growing due to the on-going projects (Table 5-1, Figure 5-5).

Figure 5-4: MWSS (1996) OPEX

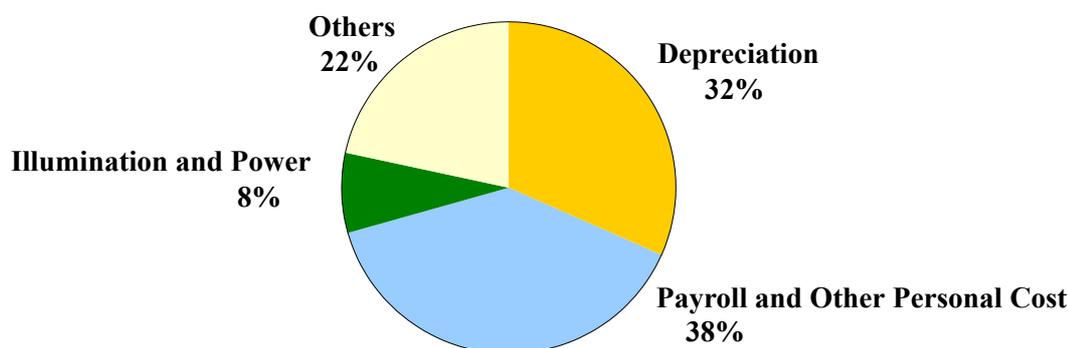
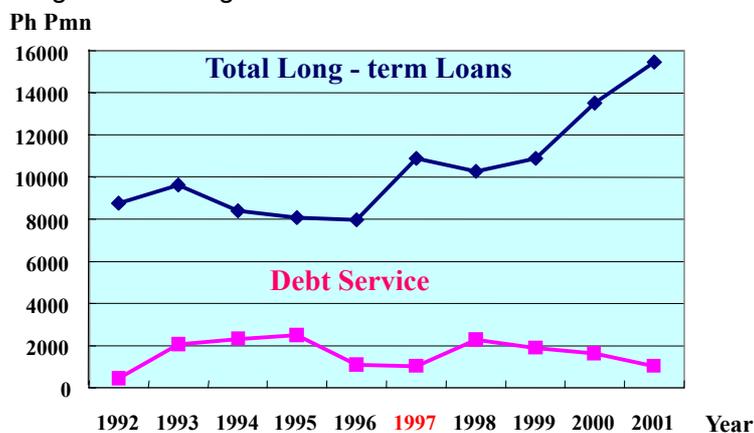


Table 5-1: MWSS Loans 1992-1996 (in PhPmn)

	1992	1993	1994	1995	1996
Loans Payable- Nat'l Government	380	374	379	389	467
Loans Payable – Domestic	400	357	250	—	40
Loans Payable- Foreign	6,600	7,590	6,547	6,612	6,641
Bonds Payable	1,380	1,315	1,217	1,037	814
Total Long-term Loans	8,760	9,636	8,393	8,038	7,962

Source: MWSS

Figure 5-5: Long-term Loans & Debt Service~MWSS~



After turning over the operations to the concessionaires, the major source of revenues of MWSS is the concession fees paid by MWSI and MWCI. Other revenue sources include rentals of leased properties, interest income and other operating and service income (Table 5-2).

Table 5-2: Concession Fees in Million Pesos

	1997	1998	1999	2000	2001	Total
MWCI	324	412	285	332	435	1,788
MWSI	866	2,266	1,978	2,082	*)	7,192

Source: MWSS RO *) MWSI paid only the part of originally assumed concession fee in 2001.

With the concession fees, MWSS is able to service its debt obligations, cover its annual operating expense and finance the local counterpart requirements of its projects. Debt service as a percentage of operating revenues has improved after the privatization in spite of the peso devaluation. However, in 2001, MWSS, secured a short-term loan from a commercial bank to cover the debt service and local counterpart funds for its projects as a bridge to cover the financial gap caused by the delayed payment of concession fees by MWCI. The financial viability of MWSS heavily therefore depends on the performance of the two concessionaires.

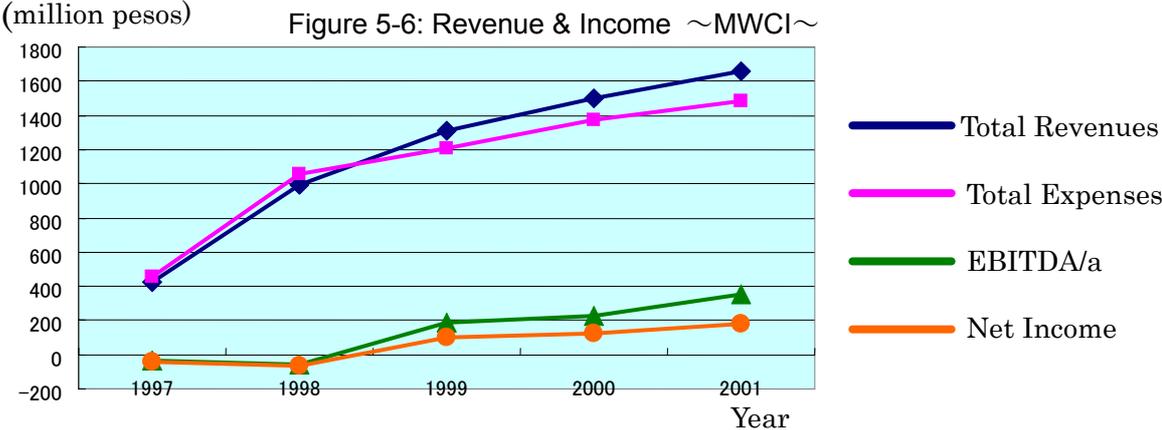
5.2 Financial Performance of the Concessionaires

The socio-economic economic environment and political conditions prior to the privatization of MWSS were favorable for the business community. Before 1997, the favorable capital market conditions such as stable foreign exchange rates and low interest rates resulted to significant foreign borrowings by both the public and the private sectors. The liberalization and privatization thrusts of the Ramos Administration have fuelled foreign interest in sectors like power, transport and telecommunications.

Towards the end of 1997, the Philippine experienced the effects of the Asian financial crisis. The peso depreciated by roughly 12% and 39% in 1997 and 1998, respectively. The large peso devaluation significantly affected the debt service payments of foreign-loans. With the onset of the Asian financial crisis, securing long-term loans became difficult. The severe drought by El Nino has compounded the financial difficulties particularly in the water sector.

Manila Water Company, Inc. (MWCI)

Income. Although MWCI struggled financially in the early years of the concession, its financial performance has significantly improved. MWCI experienced a net loss of P38 million in 1997 but became profitable in 1999 with a net income of P101 million. Net income in 2000 was posted at P123 million and progressively improved to P176 million in 2001(Figure 5-6).

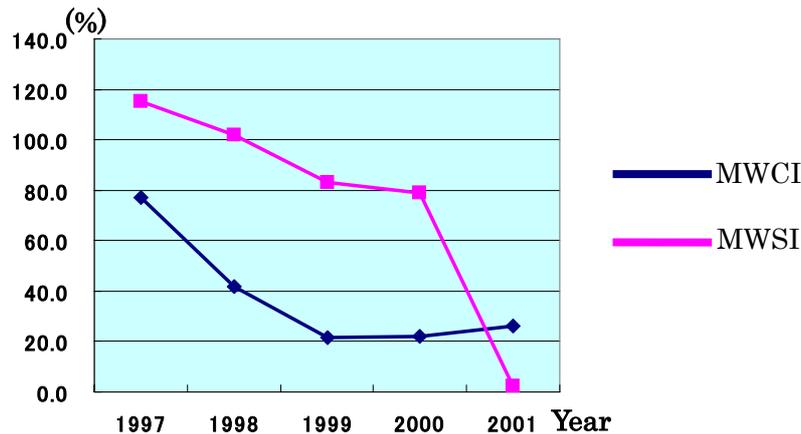


Concession fees (% of income). The concession fee payments roughly represent 21% of the operating revenues of MWCI. A significant portion of the concession fee is allocated to service the debt obligations of MWSS, of which 90% is foreign-currency denominated. The 1997 financial crisis affected the financial performance of MWCI although to a less extent considering that MWCI covers only 10% of MWSS debt service. The concession fee in 2001 increased significantly to P540 million, an increase of 41% from the 2000 level (Table 5-3, Figure 5-7).

Table 5-3: MWCI Concession Fees as a Percentage of Revenues

	1997	1998	1999	2000	2001	Total
Concession Fees	324	412	285	332	435	1,788
Operating Revenues	421	990	1,310	1,500	1,659	5,880
% of Concession fees/Operating Revenues	77	42	22	22	26	30

Figure 5-7: Concession fee / Total Revenue



Capital expenditures. MWCI has been prudent in spending for its capital expenditures. The capital expenditure in 1997 amounted to P253 million. The total capital expenditure from 1997 to 2001 amounted to P1, 678 million.

Operating cost structure. The cost recovery levels of MWCI have steadily improved because of the increase in tariff and the efficient operations. Starting 1999, the operating revenues fully recovered the operating expenses. The cost efficiency in MWCI operations has resulted to a lower production cost. At constant price (net of inflation), the unit cost of production of water is roughly 20% lower in 2001 compared to 1997.

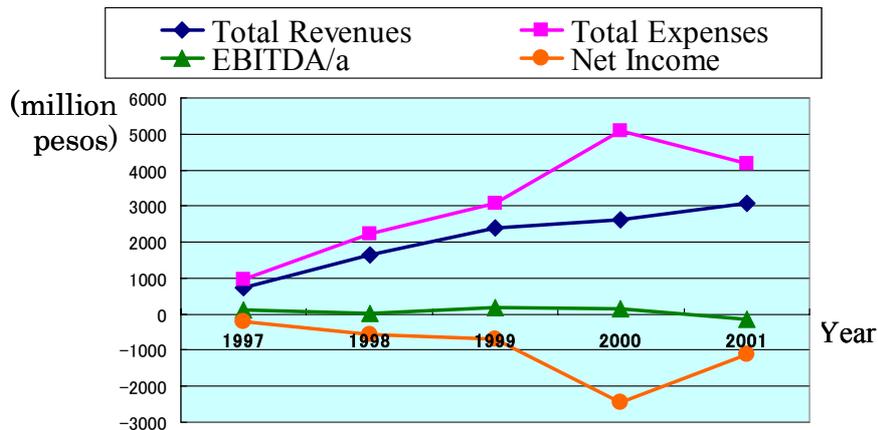
Collection efficiency. Collection performance of MWCI still has room for improvement. One constraint in improving the collection efficiency is the provision in the Concession Agreement which prevents disconnections until the charges billed to the customer remain unpaid for a period of 60 days after the due date.

MWCI's loan consists of US \$ 85mn and \$ 30mn from IFC. The Danish Development Bank lent US \$ 2.0mn for the construction of a new pipeline in Antipolo. This loan is not guaranteed by the national government.

Maynilad Water Services, Inc. (MWSI)

Income. MWSI financial performance steadily deteriorated since the start of the concession. In 1998, MWSI incurred a net loss of P560 million and by 2000, the net loss worsened significantly to P2.4 billion. Even with the tariff increase in 2001 and lower foreign exchange losses, MWSI incurred a net loss of P1.1 billion in 2001(Figure 5-8).

Figure 5-8: Revenue & Income ~ MWSI ~



EBITDA; Earnings Before Interest Taxes Depreciation and Amortization. FOREX losses excluded.

Concession fee. A significant portion of the concession fee paid by MWSI is allocated for MWSS debt service. MWSI assumed 90% of MWSS debt service obligations, of which over 90% are foreign-currency denominated. The concession fees payment represent roughly 95% of MWSI revenues, which explains the financial difficulties of MWSI. The financial debacle at MWSI was compounded by the 1997 Asian financial crisis although the net impact of the devaluation on the total concession fee payable has been less immediate. The difference between the originally estimated concession fees and what MWSI actually paid was not significant until 2001 given that the slow pace of implementation of projects during 1997 to 2000. The drag in project implementation resulted in a relatively lower counterpart-funding component of the concession fees. The concession fee for MWSI in 1997 amounted to P866 million. By 2000, MWSI's concession fee totally amounted to P7, 192 million (Table 5-2).

Capital expenditures. From 1997 to 2001, the capital expenditures of MWSI amounted to P3, 297 million or an average of P659 million annually.

Operating cost structure. MWSI has not been able to recover the costs from its operating revenues.

Collection efficiency. MWSI needs to improve its collection efficiency. The tariff increases as a result of the implementation of tariff adjustment mechanism under Amendment 1 have had adverse impact on the collection performance. Outstanding receivables from customer billings have steadily been increasing from 1997 to 2001.

Corporate management. The apparent (but less publicized) discord between the local sponsor and the international sponsor (at the top management) has affected decision making and caused delays in the implementation of the business plans of MWSI.

Percentage Distribution of OPEX

Percentage distribution of OPEX is shown in Figure 5.9~5.12, The portion of salaries and wages is gradually decreasing with the comparison of 1998 and 2001 in both MWCI and MWSI.

On the other hand, the portion of depreciation and amortization, and that of utilities share more in 2001 compared with those in 1998.

However, the OPEX breakdown does not fully reflect the actual operating expenses. In the case of MWSI, some of the technical assistance done by consultants/shareholders were capitalized and some of these advances from shareholders were converted.

Details of the OPEX are shown below.

Figure 5-9: MWCI (1998) OPEX

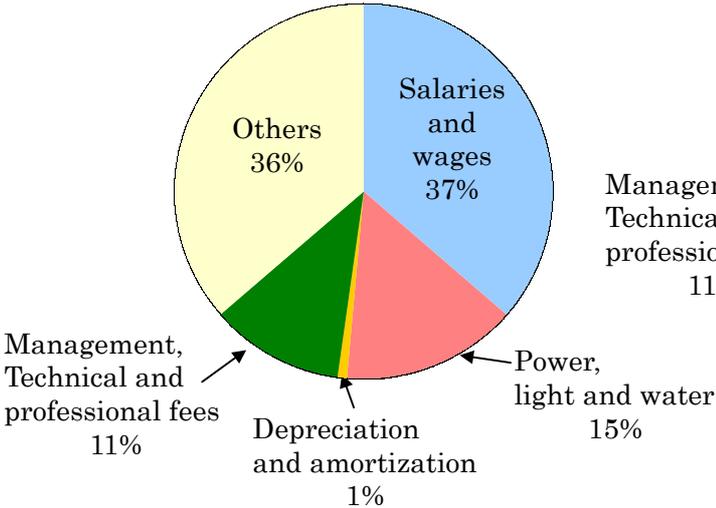
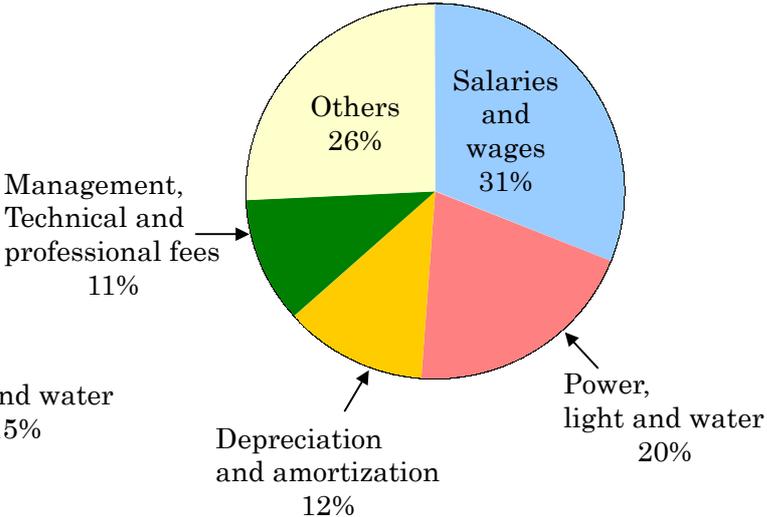


Figure 5-10: MWCI (2001) OPEX



Note that in the case of MWSI, the amortization of concession assets is included in the opex from 1997 to 2000. Significant increase in contracted services and interest expenses incurred 2001. MWSI needed to rely on operating revenues to fulfill its expenditure requirements.

Figure 5-11: MWSI (1998) OPEX

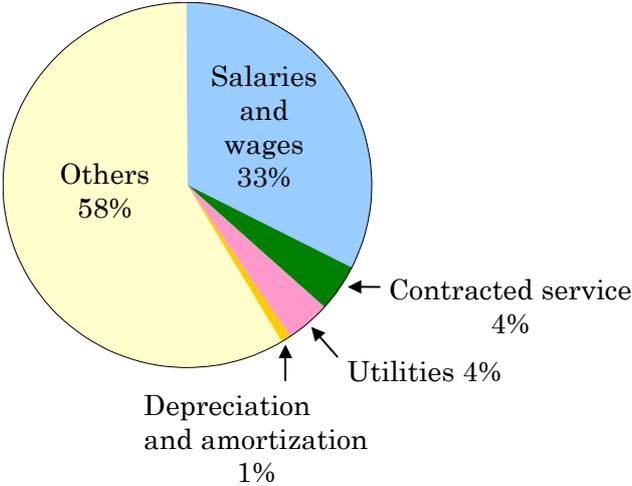
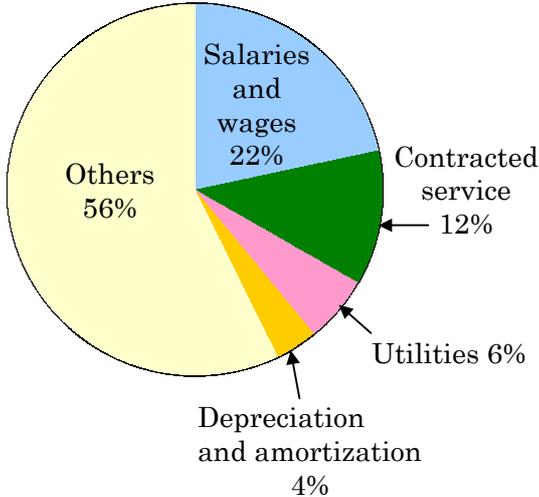


Figure 5-12: MWSI (2001) OPEX



5.3 Capital Expenditures of MWSS and Concessionaires

There is no significant expansion that can be seen in terms of capital expenditures by the two concessionaires that would have further enlarged the number of households with adequate water, sewerage and sanitation services. The table below shows that the two concessionaires' combined capital expenditures cannot (even in nominal terms) equal those by MWSS in same number of years of operation. (Table 5-4)

Table 5-4: Comparison of Capital Expenditures, in Million Pesos

	1992	1993	1994	1995	1996	Total
MWSS	1,484	1,056	824	639	854	4,857
	1997	1998	1999	2000	2001	
MWCI	253	567	278	243	337	1,678
MWSI	176	525	803	644	1,149	3,297
Total	429	1,092	1,081	887	1,486	4,975

Source: MWSS-RO

There are several factors that affect the capital investment performance of the concessionaires. It may be difficult to compare the capital investment performance of MWSS and the concessionaires. For the post-PPP, the capex for systems rehabilitation are concentrated on the early period of the concession. Debt servicing for the previous loans likewise have to be made during the initial period concession through the payment of the concession fees. On the other hand, revenues follow an opposite trend. Revenues started low and are only expected to significantly increase over time assuming significant investments to reduce NRW. This resulted to a mismatch of the timing of expenditures and the much needed revenues to finance the expenditures. With the economic uncertainties as a result of the Asian financial crisis, concessionaires have had difficulty in securing loans to finance capital investments (Table 5-5).

Table: 5-5 Long-Term Liabilities & Stockholder's Equity (PHP Million)

	MWCI	MWSI
Long-Term Liabilities		
1997	254	584
1998	129	1,229
1999	876	234
2000	1,885	415
2001	2,471	864
Stockholder's Equity		
1997	1,000	1,500
1998	2,000	3,000
1999	2,000	4,640
2000	2,000	5,240
2001	2,000	5,240

5.4 Capital Investment Program to Expand and Modernize Water and Sanitation Services

(1) MWSS

Planning for the development of new water source, expansion of the system and improvements in the sewerage and sanitation was a major responsibility of MWSS. MWSS may continue to play such a role as the current concession structure is not explicit on the transfer of such important function to the concessionaire. In 1979, MWSS completed the feasibility studies for the third Manila Water Supply Project (MWSP3), which identified the Kaliwa River (Laiban Dam) in Rizal Province as the most promising long-term water source. MWSS proceeded with the construction of the Laiban Dam in 1982. However, due to prevailing deteriorating economic and political circumstances at that time, the project was never finished.

Meanwhile, water demand in Metro Manila continues to rise. A JICA-assisted feasibility study in 1996¹ made some estimates. (Table 5-6)

Table 5-6: Projected Water Demand and Other Indicators

	2000	2005	2010	2015
Population (Millions)	12.15	13.38	14.60	15.73
Served Pop (Millions)	8.14	9.84	12.06	14.20
Coverage (%)	67	74	83	90
NRW (%)	49	43	36	30
Ave. Water Demand (MLD)	3,360	3,889	4,324	4,746

Source: JICA Study in 1996

To meet the demand, MWSS initiated a number of projects. The ongoing and planned projects of MWSS (as of 1994) are listed in Table 5-7. In 1994, water availability from both surface and groundwater sources was estimated to be only 3,000 MLD². Given the NRW of 57% and the delayed or non-implementation of some of the source projects (Table 5-7), water supply shortfalls started to be imminent as early as 1994. At the rate new projects are developed and implemented, a fast and growing population, a huge shortage of source water looms in the new horizon.

JBIC was also involved in Metro water supply and sanitation and extended co-financing of the distribution phase of Angat Water Supply Optimization Project (AWSOP).

Because water supply development and sewerage and sanitation facilities entail lumping investments, long-term cheaper financing that normally requires sovereign guarantees will be critical. Government leadership in projects for water sourcing for sewerage and sanitation appear to be the likely scenario. Furthermore, because the concession agreement is not explicit, it is now assumed that MWSS would still bear the responsibility of providing the future long-term sources of supply such as the Laiban Dam project.

¹ JICA Study 1996

² 97% of surface sources and 3% groundwater sources.

Table 5-7: Major Ongoing and Planned Water Supply Projects

Project	Objective	Implementati on Schedule	Volume of water to be produced by the project	Estimated Project Cost (₱M)	Remarks
A. IBRD-Assisted Angat Water Supply Optimization Project (AWSOP)	Source augmentation and expansion of served areas.	1992-97	1,300 MLD	8,811	partially successful
B. ADB Project Umiray-AngatTransbasin Project (UATP)	Source augmentation	1993-98	780 MLD	4,404	successful
Manila South Water Dist. Project (MSWDP)	Source augmentation	1993-97	306 MLD	1,579	not implemented
Manila Northeast Water Supply Project (MNEWSP)	Source augmentation	1996-2002	300 MLD	3,403	not implemented
Manila Water SupplyRehabilitation Project II (MWSRPII)	NRW reduction	1989-95	Not available	1,756	not successful ^{a/}
C. BOT Scheme					
1. Cavite Water Supply Project(CWSP)	Source augmentation	1996-2000	300 MLD	4,900	not implemented as of 2002
2. Manila Water Supply Project III (MWSPIII)	Source augmentation	1998-2003	1,900 MLD	34,895	- do -
3. Metro Manila Groundwater Distribution Project	Source augmentation	1990-98	33 MLD	317	- do -
D. Others					
1. Rizal Province Water Supply (RPWSP)	Source expansion	1988-98	48 MLD	1,092	not implemented as of 2002
2. NRW Reducing Project	NRW reduction	1994-2000	Not available	14,110	-
TOTAL				75,267	

^{a/} Short-term gains in NRW could not be sustained.

(2) MWCI

The MWCI projects that within their concession area, population will be 6.3M in 2010 and 8.5M in 2022 or an increase of 23% and 65% respectively, compared to the population in 2002. In its business plans, MWCI plans to assist government by looking for financing for the 50 MLD Wawa Dam, Angat Improvement Project, as well as the Laiban Dam. MWCI's calculation of its water requirements are shown in Table 5-8.

Table 5-8: MWCI Supply Projections (in MLD)

Year	Existing Sources	New Sources	Total Supply
2001	1,635	-	1,635
2002	1,717	-	1,717
2004	1,647	-	1,647
2005	1,627	50 (Wawa)	1,677
2010	1,678	300 (Angat)	1,978

The Capital Expenditure Plan of MWCI up to year 2015 is to allot a total of ₱51.4B for the following:

Water Projects	-	₱ 31.0 B
Sewerage	-	4.0 B
Others	-	2.4 B
Concession Fees	-	<u>14.0 B</u>
		₱ 51.4 B

For sewerage, MWCI plans to concentrate on constructing small localized area sewerage treatment plants (STP) rather than a single centralized STP.

(3) MWSI

A significant part of MWSI capital program for 2002-2006 is allocated for projects initially for completing major projects started during the first 5 years of its operations (implemented by MWSS). These projects, however, are not meant to generate new sources of water supply but merely to improve distribution and reduce NRW. MWSI expects the government to finish a 300 MLD project in 2007 and the Laiban Dam in 2013. The West Zone will benefit from these projects. MWSI's production targets are as follows:

Table 5-9: MWSI Production Targets

Year	Existing Source (MLD)	New Sources	Total Supply
2002	2,440	-	2,440
2005	2,440	-	2,440
2007	2,440	300	2,740
2009	2,440	300	2,740

MWSI planned to spend about ₱8.21B for the next 5 years mostly for water transmission and distribution lines. Given the reluctance of households to connect to the sewer system, MWSI is still evaluating whether to develop a single centralized STP or small localized area STPs. Because it has not achieved success in attracting new connections to the sewerage system, MWSI has second thoughts investing in the upgrade of the existing facilities, let alone new infrastructure. Consequently, MWSI has not provided for any new sewerage investment, except for operating expenses of existing sewer lines and facilities.

The government is presently packaging the Laiban Dam and a 300 MLD Project as BOT³ projects to address required additional long-term water supply. For sewerage projects, the government basically agreed that the concessionaires concentrate on small localized area STPs.

5.5 Summary of Financial Performance

The financial standing of MWSS was dramatically deteriorating from 1992 onwards. At one point, its net income position eroded by more than 50% (1993-1995) and its operating costs escalated tremendously by as much as 66% (1993-1996), indicating highly unsustainable operations of a public utility.

There was very little cash to go by from its operations even just to service its debt obligations, let alone finance badly needed capital expenditures to at least rehabilitate the deteriorating facilities that cause so much NRW. As a result, MWSS relied on equity infusion from the national government to sustain its operations. Furthermore, it depended more and more on ODA to bankroll its capital investment projects. However, MWSS did little to improve its tariffs at the time when the foreign exchange rates were for some stable. This would otherwise have generated somehow modest improvements in its cash flow position and help support its operations. The rather poor financial performance of MWSS provided probably the most compelling impetus to privatize.

The turnover of the network to the concessionaires seems to have turned around the finances of MWSS. From the concession fees, MWSS could service its debts, cover its operating costs and counterpart funding for its projects. The inability of MWSI, however, to remit concession fees in 2002 started to pose financial problems to MWSS. How the two concessionaires, therefore, impacts heavily on the financial viability of MWSS?

Just before the hand-over of MWSS operations to MWSI and MWCI, the economic environment was generally positive, providing business planners good basis for optimistic assumptions. But shortly after, the Asian financial crisis hit the regional economies, which were compounded by the onset of the El Nino weather phenomenon, which affected source water. The concessionaires faced sudden and enormous depreciation of the peso and made servicing of foreign-currency denominated loans of MWSS a huge burden. This was particularly the case for MWSI who assumed 90% of MWSS loans.

MWSI at the very beginning already struggled with burgeoning operating losses, even with tariff adjustments that were eventually allowed by MWSS. It has been unable to recover costs from its operating revenues and, with 95% of its revenues going to concession fee payments to MWSS. Collection efficiency needed improvement as receivables from customer billings started to mount even immediately after 1997. MWSI nonetheless was putting in a decent amount for its capital expenditures despite its overall cash flow position. But it appears the capital expenditures came from short-term, expensive financing and has likely been feeding into the financing turmoil in the company. The purportedly worsening differences between the local and foreign sponsors within MWSI were not helping either. The company's decision on an early notice of termination of contract is, therefore, not surprising considering these developments.

Fortunately, the other concessionaire, MWCI, is posting positive gains in its operations. It was successful in containing its operating costs and exercised prudent capital spending. Posting net incomes starting in 1999 (with a leap of 41% growth in net income for 2000-2001),

³ Private Sector project - Build, Operate and Transfer.

the company is starting to seriously discussing with government expansion programs in the near term. But even with MWCI performing exceptionally well, it is to be noted that it only concerns itself with 10% of the entire MWSS service area. Its contribution to relieving government of the financial burden associated with running a huge water utility is unfortunately rather small especially in the midst of the dire financial situation facing the other concessionaire.

The success of the PPP can be assessed by evaluating the financial performance of the “integrated body” – treating MWSS and the concessionaires MWSI and MWCI as an integrated unit. The concept of transfer pricing can be applied. For example, payment of concession fees between MWSS and the concessionaires is immaterial in the discussion of the financial gains of PPP. In doing so, the financial performance of pre- and post-PPP can be conceptually evaluated. The following can be used a set of performance indicators for the success of PPP from a financial and operational point of view:

- a) lower tariff for the consumer
- b) efficiency in operations
- c) appropriate tariff setting
- d) solvency including financial capacity to finance capex and opex
- e) profitability
- f) sustainability of operations with appropriate cost structure

Financial and operational indicators in MWSS and the concessionaires are shown in Table 5-10 with the comparison of those in Tokyo.

It is difficult though to make a quantitative assessment of the financial performance of post-PPP due to the inconsistency of accounting rules in related organizations. However, on the qualitative aspects, one of the gains in privatization of the water sector is the improvement in service as well as increase in service coverage but not in terms of efficiency. Private sector cost may be higher, i.e. personnel cost is higher because top management and rank and file employees are paid more. The number of personnel may have reduced substantially but not in terms of cost. Privatization has not cut down expenditures significantly but instead improved the quality of expenditures. The NRW has likewise not significantly reduced by the concessionaires despite of the investment in system rehabilitation by the concessionaires. Over the long term, the cost of raw water needs to be recovered to allow reinvestment in new water supply.

On the payment of loans, MWSS has not passed on the guarantee of payment to government loans to the concessionaire. MWSS still bears the risks of the non-payment of the concession fee in spite of the performance bond set in the concession agreement. MWSS still will have to pay the loan with or without the receipt of the payment of concession fees from the concessionaires. This happened in early 2001 when MWSI stopped paying the concession fees to MWSS. As a result, MWSS had to resort to short-term borrowings to fulfill its financial obligations to the lenders.

Tariff setting has not only been market friendly but also has been less political and more transparent in the post-PPP. The initial gains because of lower tariff allowed consumer acceptance to PPP but over time, consumer acceptance may slowly erode, as tariffs have to be adjusted to cover extraordinary expenditures such as foreign exchange losses.

Another gain in PPP has been the transparency in presenting financial status of water operators both to the government as well as to the general public.

Table 5-10: Financial / Operational indicators

Financial / Operational indicators	MWSS (1996)	MWCI (2001)	MWSI (2001)	Tokyo (2002)
Accounted-for water rate (%)	39%	52%	34%	91.3%
Meters / connections (%)	—	—	—	100.0%
Efficient number of employee				
Employee per 1,000 population served	1.06	0.39	0.43	0.4
Employee per 1,000(m ³ /d) production	2.69	0.94	0.98	1.2
Employee per 100 connection	0.98	0.36	0.40	0.1
Appropriate tariff setting				
Unit price of water supply (peso and yen/m ³)	7.41p	4.32p	8.28p	224.1y
Unit cost of water supply (peso and yen/m ³)	10.0p	4.45p	10.45p	202.9y
Cost to water production (peso and yen/m ³)	4.11p	4.13p	5.21p	185.2y
Total cost to sales (%)	135%	103%	126.2%	90.5%
Solvency				
Equity to assets ratio (%)	79.6%	41.7%	27.3%	61.4%
Current ratio (%)	191.8%	250.4%	13.2%	262.3%
Ratio of suitability on fixed assets (%)	89.3%	68.1%	91.1%	94.7%
Debt ratio (%)	20.4%	58.3%	72.7%	62.8%
Fixed assets / Depreciation (year)	43.2	22.7	118.3	23.2
Profitability ratio				
Operating income to sales (%)	16.8%	11.3%	(15.2%)	16.4%
Return on sales (%)	3.7%	10.6%	(56.3%)	9.5%
Total assets turnover (year)	0.09	0.28	0.16	0.14
Return on total assets (%)	0.3%	3.0%	(8.9%)	1.4%
Cost structure				
Depreciation to sales (%)	22.4%	10.9%	4.9%	21.3%
Repair expenses to sales (%)	—	19.1%	4.2%	17.9%
Labor and related expenses to sales (%)	27.6%	27.7%	29.5%	14.7%
Chemicals expenses to sales (%)	1.7%	2.8%	4.2%	0.5%
Electricity expenses to sales (%)	5.5%	18.1%	8.0%	2.6%
Interest expenses to sales (%)	14.1%	—	25.9%	9.5%

() ; negative

Figure 5-13: Cash Flow in pre-PPP (1996)

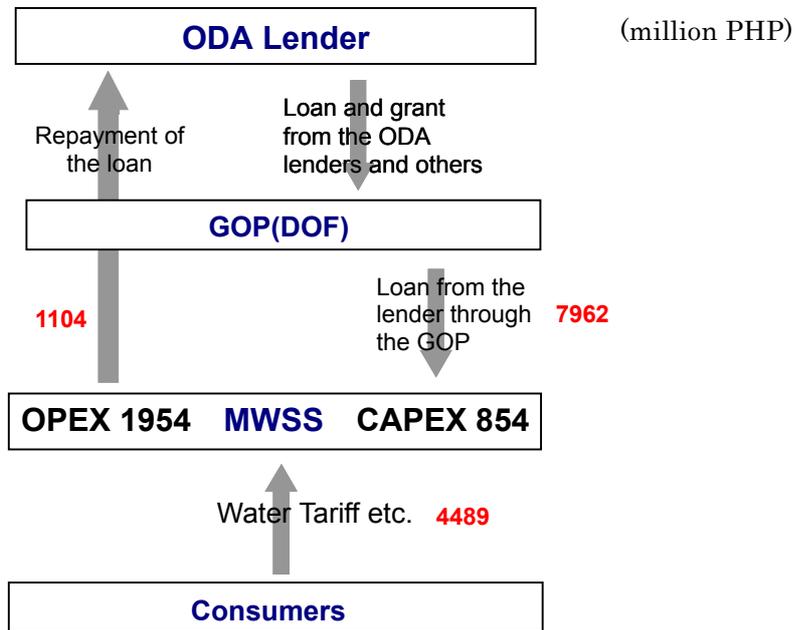
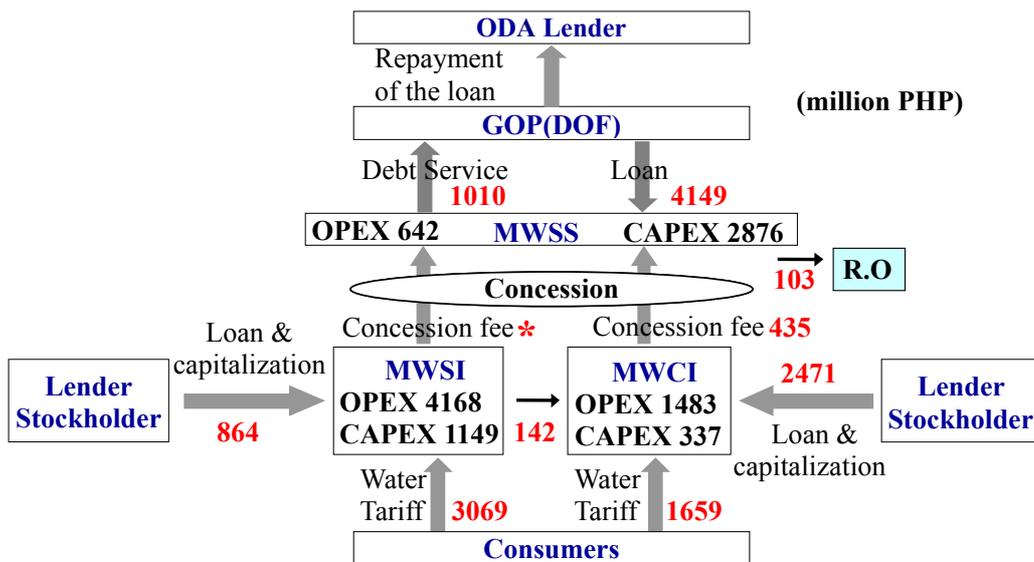


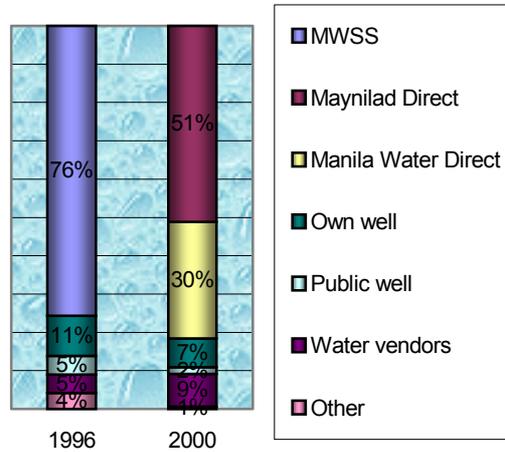
Figure 5-14: Cash Flow of integrated system in post-PPP (2001)



6. People’s Perception before and after PPP

6.1 Opinion Surveys

Figure 6-1: Share of Water sources among survey respondents



Results from two public opinion surveys were used for evaluation of Metro Manila water supply (water quality, availability, price, and services) from the customers' point of view.

Surveys from year 1996 and 2000 show customers’ satisfaction with the operators before and after the privatization. Answers of respondents without the MWSS, MWSI (“Maynilad”), or MWCI (“Manila Water”) service were included in evaluation (Figure 6-1).

Social Weather Station (SWS) conducted the both surveys. During the first one, in February and March 1996, 300 randomly selected households in MWSS service sector were surveyed on matters pertinent to the proposed privatization. The second one, in March and April 2000, surveyed 174 households from National Capital Region (NCR). Among these households, 89 had Maynilad and 53 Manila Water connection.

Figure 6-2: After privatization MWSS service area was divided between Maynilad and Manila Water



6.2 Summary of Customers Perception

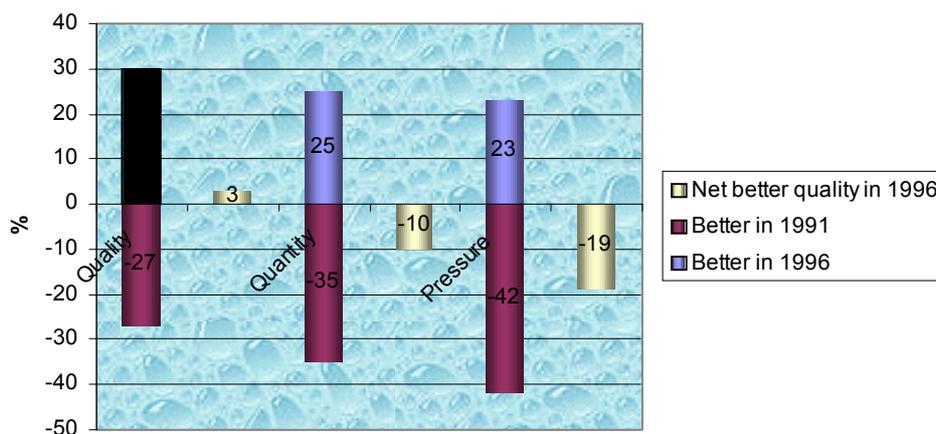
People find water supplied safer than they had used to, although they are less satisfied with its taste and smell. Concessionaires have expanded water coverage, and, according to the informants, daily water availability has not decreased. People say they consume more and pay less for it but still they are not satisfied with the tariffs despite they expected them to rise after the privatization. Satisfaction with water services has been gradually rising from original indifference to high levels in 2000.

Comparing the two concessionaires, Maynilad achieved better results in the survey, which is in contrast with known financial and technical facts. Obviously, customers' perception is not strongly related to these data but to other (known and unknown) variables. Surveys have shown that people are satisfied with different aspects of privatized water supply than what could be judged from financial and technical reports.

6.3 Perception Trend before Privatization

In 1996, people were asked to compare quality, quantity and pressure of water supplied with the situation five years ago. Answers show the trend in MWSS customers' perception before privatization. While water quality, in consumers' view, had not changed much, quantity and pressure had been decreasing.

Figure 6-3: Water services apprehension trend before privatization¹



6.4 Quality of Water

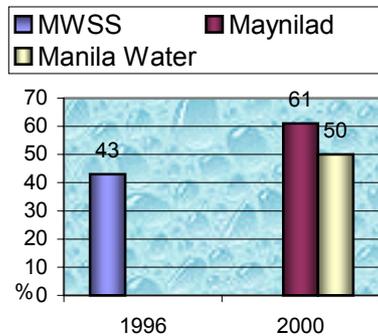
A correlation between one's income and one's quality apprehension can be seen in obtained answers. Respondents from the lowest socio-economic group were the most pleased ones with all aspects of water quality. (There was always from five to ten percent more of them satisfied compared to the middle and top group.) On the other hand, rich customers have higher expectations. As water suppliers say: it is difficult to satisfy them.

People's perception of the water quality provided by MWSS and the private concessionaires is illustrated in the charts bellow. (Both of the surveys were conducted within the dry season, when water quality is generally better.) Customers' satisfaction with purity, smell, taste, and safety was similar for the both concessionaires. Ratio of satisfied consumers was always within ten percent (10%) difference between the two companies.

¹ Net better quality in 1996 is percentage of people saying "better in1996" minus percentage of people saying "better in1991"

In 1996 only minority (43%) of MWSS customers found the water supplied to be "always clear". Four years later consumers' feelings have improved, especially in MAYNILAD service area. Water was found "always clear" by majority (61%) of MAYNILAD customers and half (50%) of MANILA WATER customers.

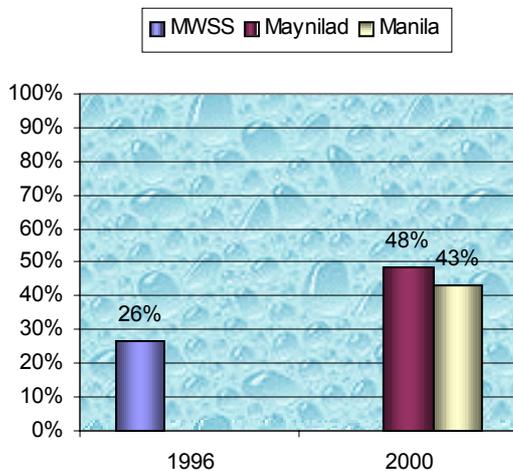
Figure 6-4: Purity of water - percentages of respondents saying: "water is always clear"



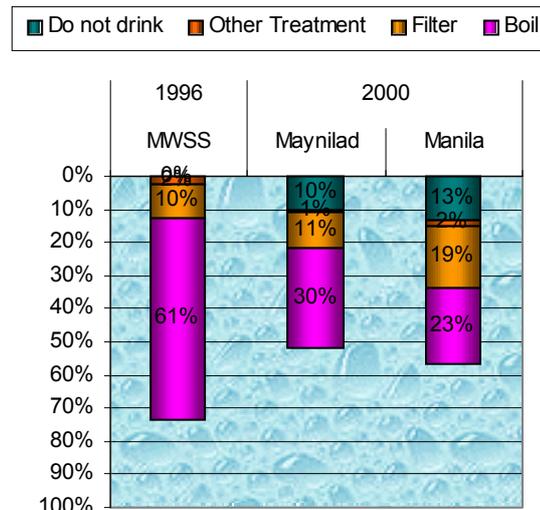
Improved purity apprehension may be one of the reasons for increased ratio (but still minority) of consumers who does not treat their water before drinking.

Figure 6-5:

(a) Percentage of respondents who drink the supplied water without any treatment

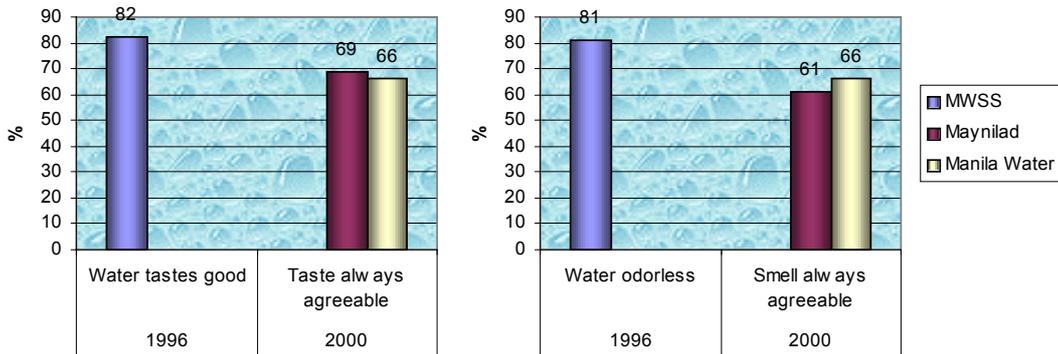


(b) Measures taken by the customers who do not find untreated water safe for drinking



Ratings of other water quality aspects, however, have worsened after the privatization. Over eighty percent (80%) of the MWSS customers found their water to be "always odorless". In 2000, percentage of people answering: "water smells always agreeable", was below seventy percent (70%) among the customers of the both concessionaires. Unfortunately, the same applies for water taste too.

Figure 6-6: Water taste and smell evaluation



The consumers' decreased satisfaction with the water taste and smell is corresponding with increased consumption of bottled water. Although ratio of consumers who treat their water has decreased (Figure 6-5(a)), some of those who do not trust the water supplied do not solve it by boiling, as they used to, but they stop drinking the water instead (Figure 6-5(b)).

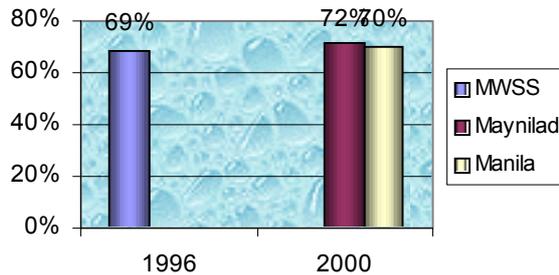
6.5 Water Availability

Some households that are connected to the water network can get water only few hours a day. Seven percent (7%) of MWSS customers, six percent (6%) of Maynilad's customers, and thirteen percent (13%) of Manila Water customers reported that their water availability was four or less hours per day.

Especially in the peak hours in the morning, when demand for water is high, elevated and remote areas suffer from low pressures. Some users can get water only during night hours. Then, they have to store it during the whole day in water tanks of a doubtful quality, which puts their health in danger.

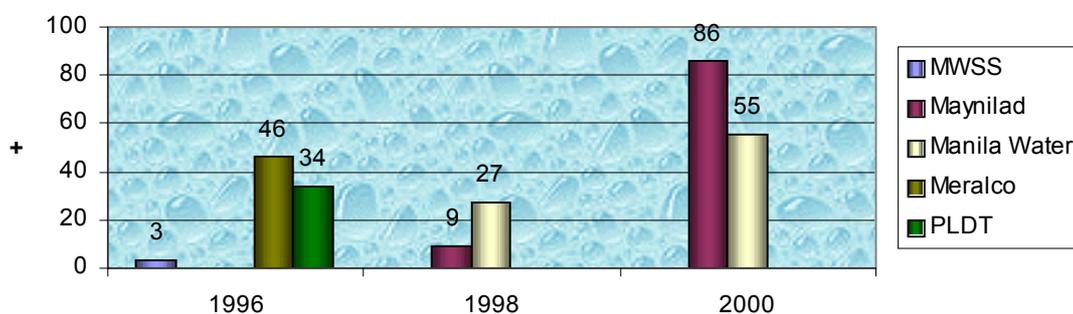
According to respondents, ratio of households with 24-hours daily supply has remained almost the same after the privatization (Figure 6-7).

Figure 6-7: Percentage of households with the continuous water supply



Moreover, chart below displays steady mean of customers' estimations of their average daily water availability. (Slight improvement among Maynilad's customers and slight fall on Manila Water side are smaller than expected statistical error of the surveys.)

Figure 6-9: Comparison of the net consumer satisfaction with the services provided by MWSS and private companies

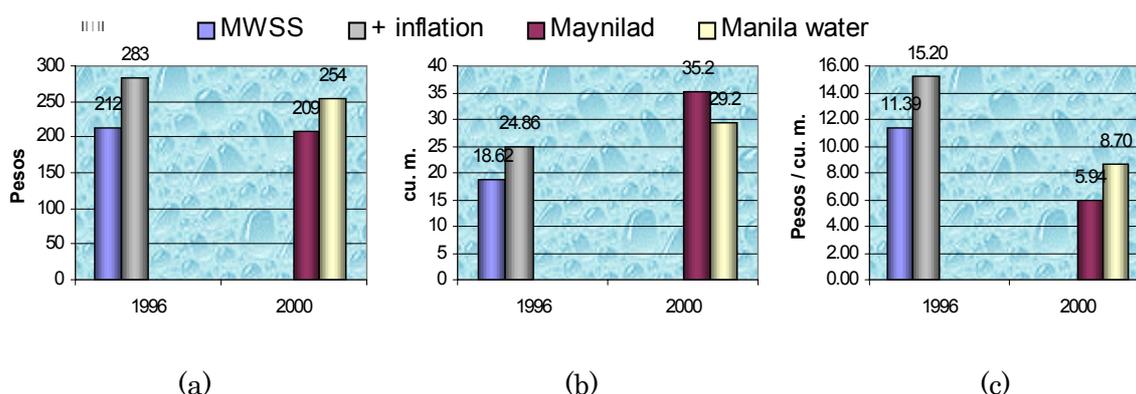


6.7 Consumed and Paid per Month

According to user's estimates, they use more water than before the privatization and pay about the same (without considering inflation). In 1996, households in average estimated they used 18.62 cubic meters per month and paid 212 Pesos for it. (Considering the actual inflation rate in the following years, this would be equivalent of 283 Pesos four years later.)

In 2000, Maynilad water consumers in average estimated to consume 35.2 cubic meters and paid for it 209 Pesos per month. Compared to them, the Manila Water customers estimated in average less water consumed, 29.2 cubic meters, but more money paid for it, 254 Pesos. This does not correspond with the real prices of water; Maynilad's water has always been more expensive. The situation, however, seems to be better than most of the people expected.⁴ (In *Filipino Report Card on Pro-Poor Services*, World Bank, 2001, the mean monthly water consumption from the main source in NCR is 19 cubic meters per household.)

Figure 6-10: Expected monthly amount in Pesos
 (a) paid and (b) cubic meters of water per month consumed by an average household.
 (c) Mean price [Pesos / cu. meter = (a) / (b)]⁵



⁴ expected change of the water price when the private sector takes over:

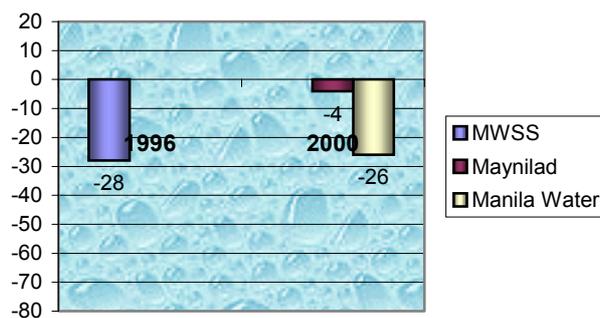
- 64 % - price will increase
- 17 % - price will not change much
- 17 % - price will decrease

⁵ Gray bar shows price of MWSS water in 1996 increased by consumer prices inflation rate between years 1996 and 2000

6.8 Satisfaction with Concessionaires' Price of Water

Respondents found the price of water expensive both before and after the privatization. Situation, however, was better in 2000. During the first survey, there were twenty-eight percent more of the MWSS customers saying their water was "**expensive**" than those saying it was "**cheap**" (-28). During the following four years, this figure had not changed much among Manila Water customers (-26) but improves (to -4) on Maynilad side (Figure 6-11).

Figure 6-11: Water price satisfaction (net saying "water is cheap")



Especially MWCI low-income customers' were dissatisfied with the water prices, which is in contrast with the fact their tariffs have always been lower.

People's perception is generally dependent on his value of thinking affected by his socio-economic conditions. The results of people's perception in 2 concessionaires are in contract with their financial and technical performances, which imply that Manila Water customers have more concerns on water price than those of Maynilad. It is needed to investigate the socio-economic conditions of respondents for clarifying the reason.

7. Special Programs for the Urban Poor

An oft-repeated argument against privatization of public utilities is that it results in higher cost of services. Critics of privatization cite profit-seeking behavior as well as discontinued government subsidies (whether direct or indirect) that naturally lead to higher prices of basic commodities such as water. Their most compelling argument is that privatization hurts the poor more than anybody else, which is a particularly relevant issue in Metro Manila.

According to 1998 Poverty Indicator Survey, 13.8% families live below the poverty line and many are found in blighted areas – slums on idle private and public lands, at creeks and rivers, or rail tracks. Moreover, increasing costs of life-essential products like water can ignite political turbulence particularly in Metro Manila where social unrest can easily be sparked by utility pricing.

In the case of MWSS privatization, there was not an expressed statement about impacts of the privatization on the poor except a general statement regarding improving customer satisfaction in the delivery of water services. It was naturally expected, however, that the public would watch private sector-led operation of water service and its impacts on the urban poor. In the present chapter, experience with the two concessionaires is described.

7.1 The Water Improvement Program for Depressed Area (WIPDA) of the MWSS

This program involved public faucets located in depressed areas. MWSS put up approximately 200 public faucets, each serving at least 50 families. Their locations were identified in cooperation with the local governments. Each site was provided with a mother meter and each household set up individually its connection with a private meter. Water bills were based on monthly water meter readings at a rate set for public faucets. The WIPDA was not able to expand due to MWSS under-investment in maintenance and new facilities. One of obstacles for MWSS coverage expansion, however, had been the requirement of a certificate of land title or copy of the lease contract for water connection installation. Since many of the urban poor are squatting illegally on private or public lands, they were not qualified for water connection. They were dependent on water from vendors (coming from households with a water connection) or water from large water sellers supplied by trucks with water containers. Water from these sources is more expensive (charged per container) and its quality may be compromised by inappropriate treatment. Therefore, the poor either had to buy water from the vendors or install an illegal connection.

To address the water needs of the urban poor, the MWSS carried out the Water Improvement Project for Depressed Areas (WIPDA). The program involved construction of standpipes and public faucets in depressed areas, providing water for 6% of all served households. The public faucets were intended to service communities that formed associations to look after the faucets, collect fees for water consumed, and remit the collections to the MWSS. Most of these public faucets, however, were decommissioned due to inability of the associations to pay MWSS or due to refusal of the associations to pay MWSS because water supply has been sporadic.

Table 7-1: Number of Public Faucets

Source: JICA report, 1996

	No. of Billed Faucets	Served Households by Billed Faucets	Total Households Served	% of Households Served by Billed Faucets
1992	647	40,795	675,227	6%
1993	685	43,768	713,676	6%

The Concession Agreement (CA) does not specifically require the concessionaires to implement special programs for the urban poor. Instead, the CA provides for the establishment of public faucets for every 475 people within depressed areas that cannot be given individual water connections. In 1998 and 1999, however, MWCI and MWSI initiated their programs to extend services to slums and remote villages in their areas. Approach of the two concessionaires varies in some respects but in both cases resulted in expansion of the covered area.

7.2 The Manila Water’s Tubig para sa Barangay Program

MWCI originally continued the WIPDA but later focused more on illegal connections. The company formed teams from their employees and sent them to areas where the illegal connections were expected. The strategy was later expanded to become a more comprehensive and deliberate program to focus on providing water to the poor.

MWCI’s flagship program for the poor is called *Tubig para sa Barangay*, or water for the community. This program is targeted at areas with large number of clustered low-income households, where illegal connections are rampant, water quality is poor, and where road is wide enough to lay tertiary lines. Typically, 2 to 5 households share one MWCI water meter. Users group themselves or are organized with the help of the *barangay* (village), municipal, or even national leaders (for example, congressional leaders who provide assistance to their constituent districts). A potential water supply project is then developed for the community, which includes pipes laying, leak repair and later the provision of individual or group taps.¹

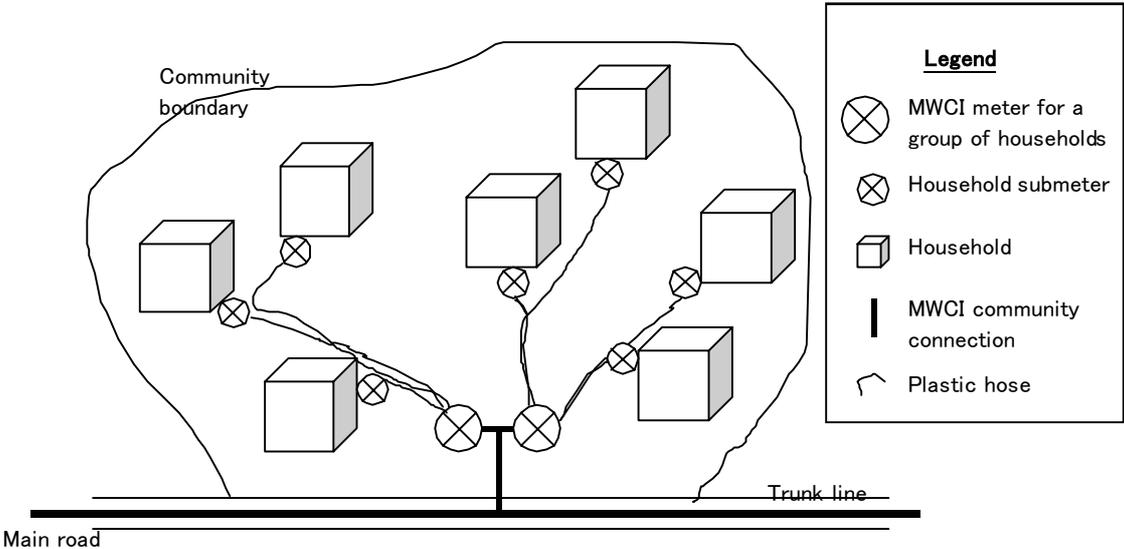


Figure: 7.1 – Tubig para sa Barangay typical arrangement – MWCI provides the community connection and sets up meters, usually each for five households who share its cost. From this meter, consumers bring the water to their homes in their own plastic hoses. Cost of all water lost behind the MWCI meters is borne by the customers.

At the initial stage of the project, the community is consulted by the MWCI or by a community-based non-governmental organization working for MWCI on their needs and their ability to pay for the water service. Slum tenants bring the water to their houses in plastic

¹ Private Solutions for the Urban Poor: Manila Water Company's "Tubig Para Sa Barangay" Program Prepared by Manila Water Company, Inc. (Draft of 7-Mar-03)

hoses, which are normally laid on the ground and in the mud with no protection. In these areas, consumer-end water quality is not known, and water provider is not responsible for it. Households share the connection fee and are given the option to pay on installment basis. In addition to the shared MWCI meter, each household has usually one individual meter to determine its share from the group's water bill. One person is responsible for the group – for money collection and payment of MWCI water bill.

MWCI also implements bulk water supply projects. Bulk water is provided at the edge of the slum areas where it is not viable to provide individual connections or group taps. The service can be either a community-managed water connection or a privately managed water distribution. In the first type of service, the community deals directly with the MWCI, pays the bulk water, and sets up its own distribution, billing and collection system. For operational expenses an additional amount to the MWCI's water tariff is charged, which can make the total price paid by the customers double. In the second type of service, a private contractor distributes the water and sets up its own billing system. In this case, MWCI deals with the contractor. Contractor pays commercial or industrial tariffs for the provided bulk water and helps MWCI achieve its coverage targets without any extra investment for distribution pipes.

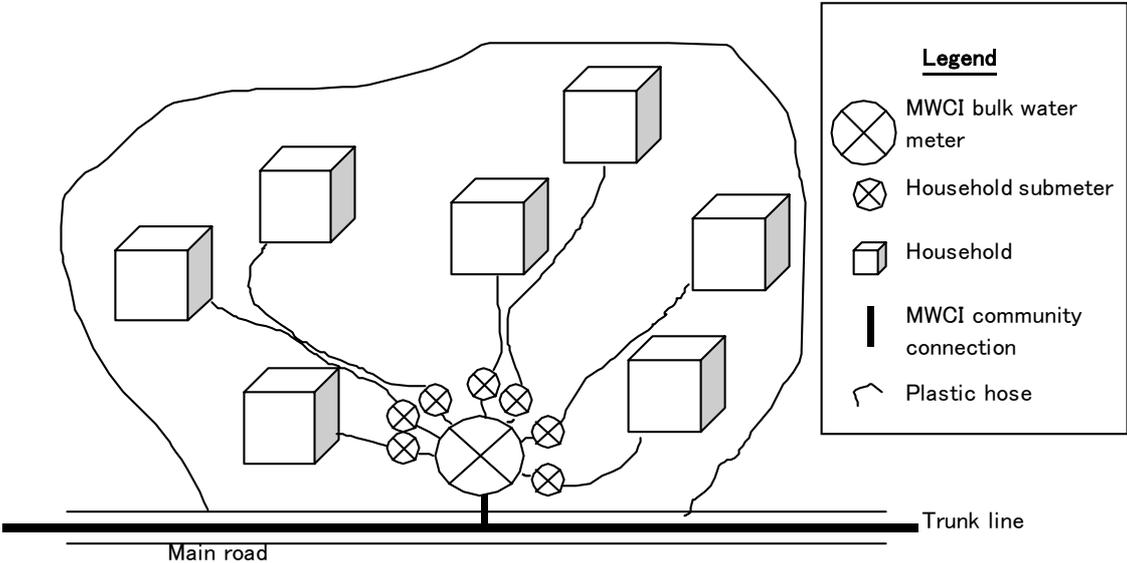


Figure: 7.2 – Community bulk water supply – MWCI installs the connection with a bulk water meter. Each household takes care of their own individual connection and buys a meter for determination of its payments to the community organization.

In all, the program follows these steps: a) review the physical and socio-economic conditions of the area; b) waive the policy of requiring from applicants a certificate of land title or copy of lease contract before; c) offer a menu of options to the poor to connect to the company's water system; d) organize communities and encourage community participation; and e) deploy “territory” teams primarily to spot customer's needs and opportunities for service expansion, improve customer service and help the people's organizations.²

Efforts Prior to the Pipeline Installation

At the heart of this program is the company-community partnership that MWCI fostered in its implementation. Thus community organization is the key to success of the *Tubig para sa Barangay* program. The communities are organized into cooperatives, neighborhood

² Ibid.

associations or homeowners associations. The community organizing activities focus on improving these POs capability to manage and operate their water distribution system in their respective communities.

Because community organizing requires time and specific skills, MWCI enlists non-governmental organizations (NGOs) to carry out the community preparation work. These sub-contracted NGOs are responsible for the following:

- social preparation: ground working, information dissemination and community consultation/meeting
- assist the PO in organizing a water committee, in defining the roles of the committee, and in training the committee members in their task
- help set out the collection system and in defining the policies and procedures to be followed in collecting loan repayments/ if any, and monthly water bills
- help in the design and preparation of plan for secondary and tertiary lines
- conduct seminars and workshops on the operation of a water distribution system, meter reading, simplified bookkeeping, etc.
- help the PO in resource mobilization
- assist in the supervision and monitoring of waterline installation
- assess and evaluate the post-installation operation

LGUs also play a vital role in the program. In some cases, LGUs identify the communities to be covered by the program and even provide funding (fully or in cooperation with the community organizations) for the costs of the reticulation system (or the network of secondary or tertiary lines that provide the water to the households).

MWCI now counts about 250 *Tubig sa Barangay* projects, benefiting approximately 400,000 individuals (61,000 households) or roughly 40% of number of people connected to its concession area.³ The target is to connect 34,000 households with the 42 on-going and future projects for 2003. The following table shows the MWCI record of its pro-poor program.

The ratio of new beneficiaries to the number of new connections is remarkably high, which is more than half of the new connections (Table 7-3).

Table 7-2: *Tubig Para Sa Barangay* Performance Indicators

	1998	1999	2000	2001	2002
Number of beneficiaries (cumulative; '000)	1.5	13.6	27.6	50.6	63.9
Water consumption (cumulative, in thousand m ³)	44	407	829	1,516	1,917

Source: MWCI

Table 7-3: Ratio of new beneficiaries to new connetions

	1998	1999	2000	2001	2002	Total
New beneficiaries ('000)	1.5	12.1	14	23	13.3	63.9
New connections ('000)	14	50	19	19	15	117
Ratio of new beneficiaries (%)	10.7	24.2	73.7	121	88.7	54.6%

³ Ibid.

7.3 The *Bayan Tubig* of MWSI

In late 1998, the west zone concessionaire adopted a policy to supply water to depressed areas. The provided services are (a) “level 1” public faucets or water coming directly from source (for example, deep wells) in areas identified and projects endorsed by the local governments; (b) Level 2 public faucets (taps from main pipes) requested and supported by NGOs and community associations; and (c) individual connections. For schemes *a* and *b*, MWSI can install the public faucets but the community water associations have to provide labor and materials. These public faucets (now numbering around 402) are looked after by the village head or the association president and are billed based on bulk selling rate.

Because of problems with management of the public faucets (leaders tend to control use of the faucets) and misunderstanding brought about by complex billing of the multiple users (resulting in higher tariffs than for an individual connection), MWSI intensified its efforts to provide individual connections even to the poor.

The tertiary line is buried up as close to the household as possible. Where this is not possible due to narrow roadways, the pipes are laid above ground or attached to the wall up to the battery of meters from where each household makes a plastic pipe connection above ground.

The locations of *Bayan Tubig* projects are determined largely by demand of the poor communities. First, a community association approaches MWSI. A team of MWSI employees comes to these communities to discuss procedures for registration and pricing of connections. Often, the negotiation point is the payment terms for the connection charge. The company offers 12-months installment plans to pay the connection charge of some P 3, 500 per connection. Mass registration and application is then carried out in the communities, with the MWSI staff spending a day or two in the field to attend the applicants in their communities to collect the connection down payment. The down payment consists of a Guarantee Deposit and Restoration Cost and/or Excavation Permit Fee, if applicable.⁴ The rest of the installation fee is paid up to a maximum of 12 months from the application date.

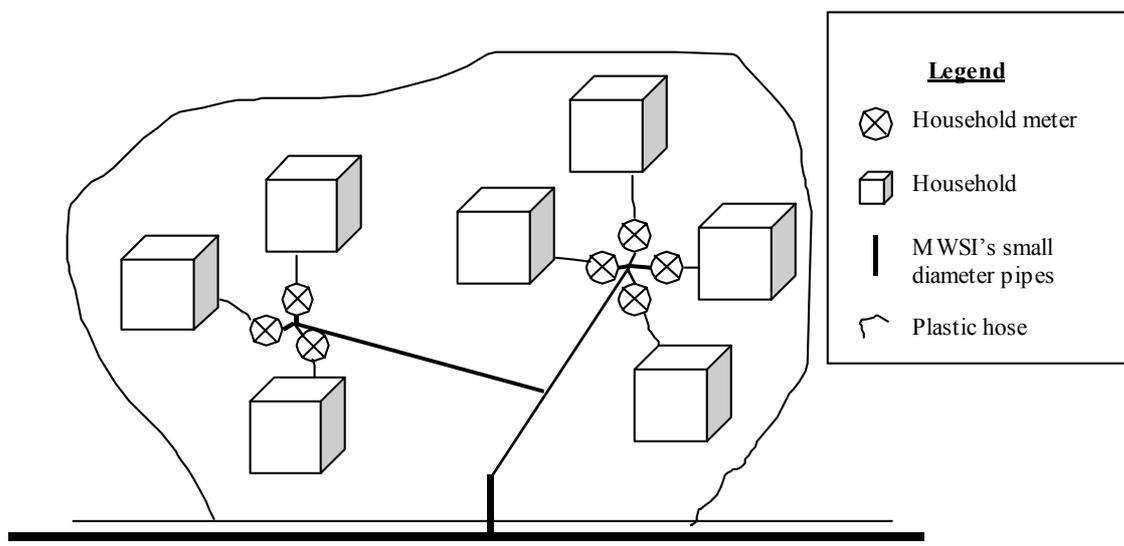


Figure: 7.3 – MWSI schemes with individual connections and individual meters at household. Customers bear cost of water losses only on the short part of the hose between their house and their water meter.

⁴ “Policy and Guidelines in Handling Water Service Connection and Application (Walk-in/Regular and Mass Registration”, MWSI (July 2000)

Afterwards, a contractor is hired to lay the main pipe going to these communities. The MWSI personnel later connect the tertiary lines individual household connections.

Since introducing the program in February 1999, the *Bayan Tubig* program has served more than 40,000 families in poor *barangays* of the West Zone. (Around 63,000 new connections, which corresponds to 45.7% of total new connections, has been set up under the program.) Based on the October 2002 MWSI business plan, the program will slow down (in line with the slow down of the capital expenditure program) due to MWSI's financial constraints.

7.4 Impact on the Slum Dwellers and Non-revenue Water

Both the *Bayan Tubig* and the *Tubig para sa Barangay* succeeded in reaching a substantial number of poor communities in Metro Manila and nearby towns. The number of beneficiaries is certainly beyond one could imagine for MWSS to reach given the stringent connection requirements before the privatization.

The slum dwellers have directly benefited in terms of accessibility and availability of potable water, its cost, and have saved the time they used to spend by queuing at public faucets - all this resulted in their increased water consumption. They paid 10 times more for unit water before this program. In present, some of the poor pay monthly for their water more than before the "pro-poor" programs were introduced in their communities. They did not used to spend much for water when they had to bring every drop from remote standpipes or buy it from vendors and store until they come again. They did not spend anything when they could steal the water from the mains. By delivering water to the slums with high number of illegal connections, these programs address the reason of the non-revenue water. At the same time, this is the way for the concessionaires to meet their service coverage targets.

The initiative to intensify the outreach to depressed areas is also a result of encouragement by the political leadership (particularly the current one) to focus on the water service delivery to the poor. Years of neglect of these communities have fomented growing unrest and addressing basic needs is thought to be an effective way to assuage them. Selection of priority sites is therefore somewhat influenced by prodding from local and national politicians for demonstration that privatized schemes can improve living conditions of the poorest ones.

7.5 Forgotten Sanitation

Within one or two months after getting comfortable water supply directly to their households, people's consumption rises. They can just turn their taps and use any amount of water for anything. Consumers are satisfied. If their consumption is high enough, concessionaires are making profit. Unfortunately, nobody cares how to get all the water out of the neighbourhood after use. Sewage is something people "don't need" and they are not going to pay for it. They got used to the smell in their neighbourhood so it is repulsive only for outsiders. Relation between some diseases and hygiene is not fully recognized there. This will not be solved by market alone. In spite of targets in the contract, both concessionaires have paid insufficient attention to sanitation problems. The situation is not likely to change until people (not only slum dwellers) are fully aware of sanitation significance. Once epidemics caused by unhygienic conditions start to spread the problem will not be just a local slum dwellers' problem anymore.

8. Profile of Concessionaires and the “Residual” MWSS

This section looks at the organizational profile of the two concessionaires. Where available data allows, analysis is made on the age of the employees, level of management effort (simply in terms of the ratio of managers and supervisors over technical and support staff), the educational attainment of the employees, and how the companies are structured. Impressions of staff morale are also included but should be taken with caution as there is no concrete basis for making good judgment simply from these accounts.

8.1 Impact of the Privatization on Human Resources in MWSS

Privatization would normally involve downsizing staff complement to reduce operational expenditures. Perceptions of bloated public organizations with inefficient and unqualified employees tend to further motivate new owners to scrap positions, eliminate redundant or overlapping units or simply replace people with new hires.

In the case of the MWSS, the employees are covered by Philippine civil service regulations and thus, cannot be retrenched without good cause and adequate compensation. As such, MWSS were given options upon private sector takeover: retirement (the employee to receive a package of benefits in addition to those being extended as part of the social security program for government employees), or re-hiring by the private companies (MWCI and MWSI) with remuneration package at least at par with what they received from MWSS at the time of the turnover.

MWSS employees, like their counterparts in the other parts of the government bureaucracy, are paid according the government pay scale (which is generally not comparable to private sector salary schedules). Other benefits that civil servants enjoy include the following: (a) allowances to cover medical, meal, transport and other expenses, (b) year-end, mid year, anniversary bonuses; (c) premium such as overtime pay and sometimes hazard pay; (d) paid vacation, sick, emergency and study leaves and (e) study-now-pay-later schemes and study grants to support continuing staff education.

MWSS provided training programs to its frontline employees, including: (a) foreman-ship training; (b) training for effective supervision; (c) systematic problem solving; (d) Planning and budgeting seminars. It also provided employee counseling. MWSS staff is also eligible to participate in degree and non-degree training here and abroad that is available to government employees. The concessionaires find that most of the middle managers and some rank and file employees are well trained, with a number obtaining masters degrees from schools abroad.

With the start of the concessions in 1997, of the total 7,638 MWSS employees, around 2,200 were transferred to MWCI and 3,100 to MWSI. (About 2,200 were retired with 104 employees retained in the MWSS residual office.) Being two distinct corporate entities, the approach to remuneration, management and skills upgrading of MWSS employees absorbed by them differ in some respects.

8.2 MWSI

The largest shareholder of MWSI is the Benpres Holdings Corporation, a Philippine company, which owns 59% of MWSI. Other shareholders include (a) Ondeo Services (20%), (b) Lyonnaise Asia Water, Ltd. (20%) and Metrobank (1%). Ondeo Services has 16.8% interest in Lyonnaise Asia Water, Ltd. Ondeo Services and Lyonnaise Asia Water are both affiliate companies of Suez-Lyonnaise des Eaux. Benpres is a company run by the Lopez family. The

Lopez family is involved in power distribution (the family runs the Metro Manila electric company) and in the major print and broadcast media companies (they own the largest TV station in the country).

Based on the terms of the Concession Agreement, the role of Ondeo Services is defined as the “International Water Operator”. It is expected that Ondeo Services will bring its international experience to support the Concession by providing technical know-how to meet the requirements of the Concession Agreement.

MWSI absorbed a larger number of MWSS employees after assuming the West Zone concession. It has however reduced the number of employees in spite of the increase in water sales and the number of customers. MWSI has achieved progress as far as staff efficiency is concerned as a result of the staff reduction program. Concerning employee benefits, the salary structure at MWSI is simplified by integrating allowances, bonuses, incentives and loyalty awards in the employee salary. This is intended to improve the payroll preparation and facilitate the understanding of the pay slip by the employees. The salary, other than being simplified, remained the same level as previously earned at MWSS before the privatization. At the time of the research, MWSI mentioned that MWSI intended to implement an extensive training component to improve water and sanitation services. This will focus on management and supervisory development and specific technical training modules.

There was really no chance to talk to MWSI regarding specifics of their human resources development program. At the time of the research, the MWSI was in the middle of discussions with government on the financial situation of the company and it was difficult to engage them in an academic discussion. From what can be gathered from their colleagues at MWSI (who are former co-employees, even spouses and friends), there seems to be low morale among MWSI employees but one can only speculate as to major reasons. The much-publicized financial turmoil involving the parent company (Benpres Holdings) and inability to service the debts would have fostered uncertainty among the employees and thus causing some concern among them.

The water concession has seen leadership changes several times since it started operations in 1997. The current company president is the third president of MWSI. These rather frequent changes at top management could have been brought about by several reasons but definitely reflect the difficulties the company has been facing.

There are now nearly 2,350 employed by MWSI. The employees of the company are rather young; more than half are between the ages of 35 and 45 years (Table 8-1). Predominantly male (80%) and married (85%), they are also highly educated, with half of them having completed college and 20% even with master's degrees. Even those who hold non-supervisory positions (technical and support staff) are mostly college graduates with some even finishing graduate courses. Those directly involved in fieldwork (e.g. laborers) finished high school and a big number (20%) took vocational or technical skills training.

For upgrading the capabilities of its employees, MWSI spent a total of P22.5 million for training programs. This may not be a decent amount if one considers how this translates into per capita spending for capacity upgrading (average of just P1, 500 per employee per year, Table 8-2). The company did spend quite a significant amount in 2000 when it spent roughly P4, 000 per employee for training.

From the make-up of the entire company staffing, one can see a relatively management-heavy organization in MWSI. For instance, the ratio between management personnel (executive, manager or supervisor) and technical/support staff is 1:4 (Table 8-3 shows that the managerial category is about 20% of total number of employees). In fact, while there was

general reduction of the number of company employees, the number of executives jumped from 7 in 1997 to 30 in 2002, or an average increase of 40% a year. The organizational structure (see Figure 8-1 – MWSI organizational chart) seems to back this observation as there are as many boxes directly under the company president (presumably led by several vice presidents) as are operational boxes.

On labor side, the MWSI employees are highly organized as a labor group. There are two labor unions within the company, one for supervisors (the Maynilad’s Water Supervisors Association) and another for rank and file (the *Kaisahan at Kapatiran ng mga Manggagawa at Kawani sa West Zone*). Each has signed a “Collective Bargaining Agreement” with MWSI, covering employee benefits, grievance procedures, etc. Seventy percent of all MWSI employees are members of these unions, a considerable number to contend with should disputes on pay and benefit levels arise.

In managing its concession area, MWSI divided the service zone into four (4) areas of service management, namely: 1) Northeast Business Area (Roosevelt and Novaliches districts of Quezon City); 2) Northwest Business Area (municipalities of Malabon, Navotas and cities of Valenzuela and Caloocan); 3) Central Business Area (most parts of city of Manila); and 4) South Business Area (cities of Pasay, Paranaque, Las Pinas, and parts of Makati City, and the municipalities of Rosario, Imus, Noveleta, Bacoor and Kawit in the province of Cavite). There are a total of 24 customer and service centers under these business areas.

Figure 8-1: Organizational Structure of MWSI

April 1, 2003

Table of Organization - MWSI

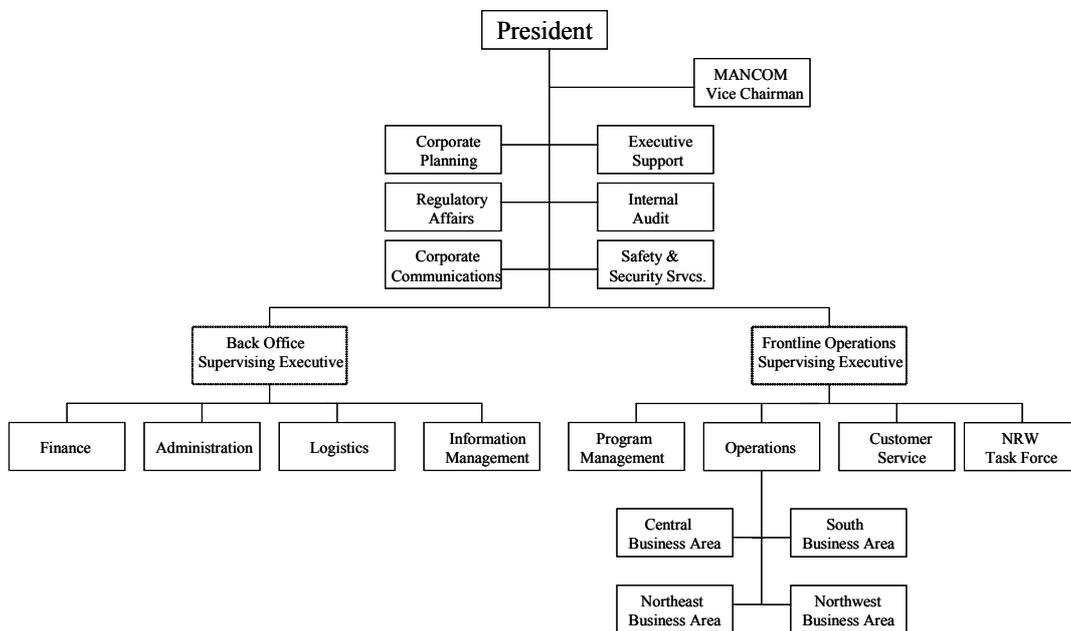


Table 8-1: MWSI Employee Profile

	1997	1998	1999	2000	2001	2002	
Rank and File	1,111	796	706	755	677	597	
Technical / Professional	1,354	1,343	1,223	1,201	1,234	1,237	
Supervisor	207	207	185	185	185	210	
Managers	289	288	258	238	282	271	
Executives	7	15	19	18	25	30	
Total	2,968	2,649	2,391	2,397	2,403	2,345	
Managers, executives and supervisors	503	510	462	441	492	511	
Technical and support	2,465	2,139	1,929	1,956	1,911	1,834	
							Average
Ratio of managers to staff	20%	24%	24%	23%	26%	28%	24%
Growth		1998	1999	2000	2001	2002	Average
Rank and File		-28%	-11%	7%	-10%	-12%	-11%
Technical / Professional		-1%	-9%	-2%	3%	0%	-2%
Supervisor		0%	-11%	0%	0%	14%	1%
Managers		0%	-10%	-8%	18%	-4%	-1%
Executives		114%	27%	-5%	39%	20%	39%
Total		-11%	-10%	0%	0%	-2%	-4%

Table 8-2: MWSI Training Costs

Year	Amount (Pesos)	Total no. of Employees	Per capita Costs (Pesos)
1997	500,000	2,968	168
1998	4,637,492	2,649	1,751
1999	6,356,539	2,391	2,659
2000	9,223,448	2,397	3,848
2001	446,391	2,403	186
2002	268,910	2,345	115
TOTAL	21,432,780		
Average		2,526	1,454

Source of raw data: MWSI

8.3 MWCI

The ownership of MWCI is divided among six groups. Ayala Corporation, one of the pioneering, and largest conglomerates in the Philippines, owns 42.3% of MWCI. The rest of the shareholders are: (a) United Utilities B.V. (18.8%); (b) Bechtel Enterprises, Inc. (14.1%); (c) Bank of the Philippine Islands (9.4%); (d) Mitsubishi Corporation (9.4%) and e) MWCI employees who own 6.0% of MWCI as part of the MWCI Employee Stock Option Plan. The top management of MWCI comprises mostly of executives of Ayala Corporation seconded in MWCI. Ayala Corporation is owned largely by the Ayala family that has considerable influence in the business community not only in the country's prime business center (the Makati business and commercial district), but increasingly in the entire economy.

MWCI management prides itself with the fact that more than 90% of its employees and managers are former MWSS employees, with very few top management positions filled up by personalities seconded from the Ayala group of companies. As a private company, MWCI is expectedly reluctant to divulge the pay scale for its employees. In informal discussions with some employees, they indicated that the pay is better now compared to government pay scale. Salary increments are more often and based on performance measured with clear benchmarks.

Further, according to the employees interviewed, there is greater autonomy and decentralization at the field level, making the company more responsive to customer needs. Field staffs are given prime responsibility for managing their respective "territories". This alone provides them great sense of importance of their work and ownership of the objectives of the company. Streamlined reporting arrangements and "hand-on" involvement of top management in day-to-day operations provide for efficient implementation of key programs.

MWCI also embarked on several capacity enhancement programs. These include formation of "Learning Teams" among the staff in 2001 that meet regularly to discuss common issues (e.g. the collection heads in one learning team, plant managers in another, waste water coordinators, etc.). Other scheme include: sharing of best practices (i.e. Balara branch will invite Cubao branch to share best practices in customer service); implementation of a cadet program – hiring and training of fresh school graduates to perform specific tasks; and highly focused training programs geared towards supporting basic activities, network and management development through managers' schools.

As a corporate philosophy, MWCI emphasized process-based quality control efforts rather than focus on specific projects. It has also pursued recognition programs (awarding i.e. best field manager for a certain quarter of the year), which fosters competition among field offices, in the process resulting in significant improvements in service delivery. The overall assessment is that there is very high morale among the MWCI employees and this is positively contributing to the seeming better performance of this particular concession.

There are as of March 2003 a total of 1,510 personnel in the company (Table 8-3). This number represents nearly 30% less than the number of employees when MWCI started operations in 1997. In fact, the employee size has since been steadily shrinking (by about 5% annually).

Roughly 70% are rank and file, 14% supervisors and 13% managers (Table 9-5). Interestingly, top management (the MWCI President and 4 other topmost officers) of the company is "seconded" from the Ayala Corporation (Table 9-4). (Secondment is assignment of personnel from one company to another, with the seconding company paying for salaries of these personnel). Except for the 5 top management posts, all personnel of MWCI in 1997 came from MWSS. As of today, nearly all (95%) of MWCI employees are former MWSS employees.

Nearly two-thirds of the company employees are between the ages of 35 and 45 years. As in the case of MWSI, MWCI employees are predominantly male (more than three-fourths of total number of employees).

MWCI considers itself to be a rather flat structure in terms of hierarchy of decision-making levels. This means there are very few levels of intermediate positions between those who actually do the work and those who make key decisions. Figure 9-2 for example shows that there are few boxes between the office of the company president and the “group” leaders.

Perhaps the most important feature of how the company is managed is the highly decentralized mode of operations introduced by the leaders coming from Ayala Corporation. There are seven (7) Business Areas within the East Zone concession. But these are further subdivided into 43 operational districts or what MWCI calls demand zones (DMZ), based on hydraulic analysis. These DMZs have each a business manager, with the authority to respond to the needs of their respective territories. His responsibilities, apart from managing a team of customer service specialist, network specialist, meter readers, leak repair crew, and servicemen, include managing water supply and demand as well as developing and strengthening community and business partnership within the DMZ. The DMZ manager is empowered to allocate and decide on use of resources in the field to enable early and effective response to customer needs such as immediate installation of water connection (e.g. within 7 days from date of application), repair of tertiary and mains bursts (within 2 hours of reporting), etc. To encourage better performance by its employees, MWCI holds regular competitions such as awarding outstanding DMZs and business managers.

MWCI indicated that it is corporate policy to involve its employees as much as possible in decision-making and to ensure employees feel truly a stakeholder in company successes. It therefore encourages equity participation by its employees and will allow the employees to own up to the limit set by the concession agreement (i.e. 10% ownership by employees). Employees are therefore given stock options and now own 6% of the company.

Figure 8-2: Organizational Structure of Manila Water Company, Inc.

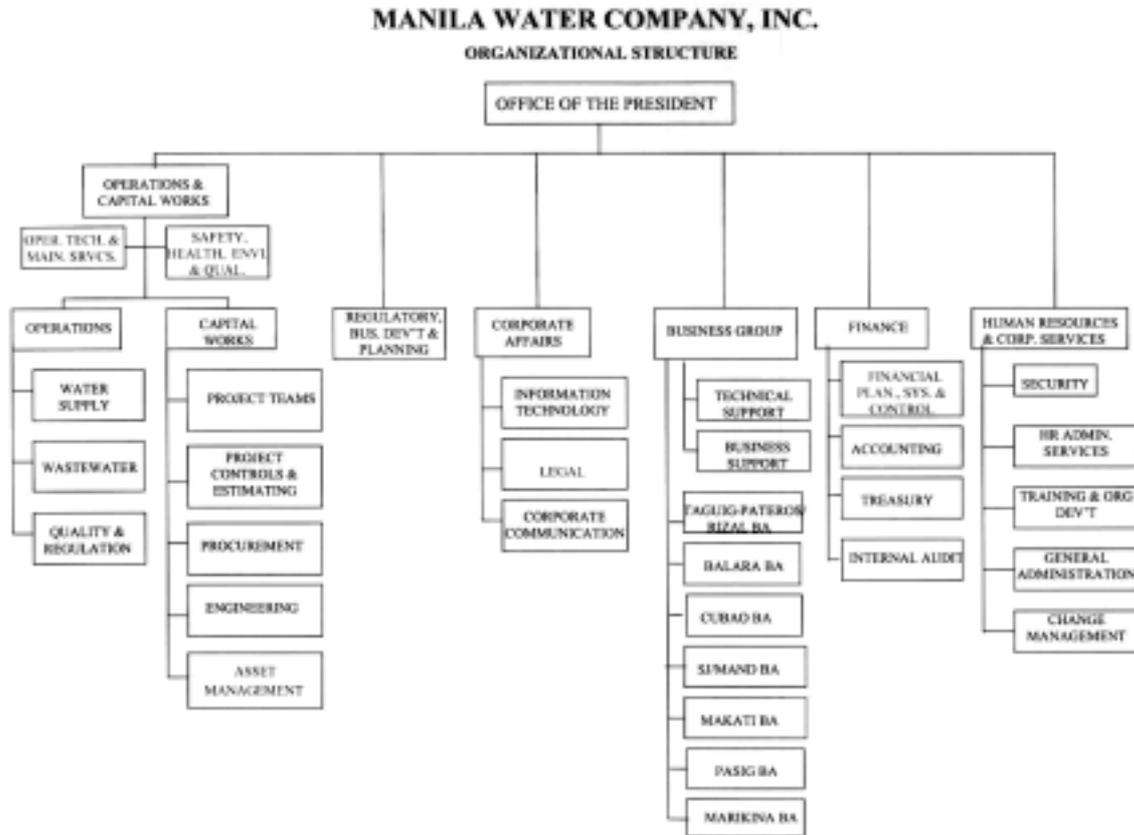


Table 8-3: Number of MWCI Employees
As of March 2003

Yr-end count	No. of Employees	Seconded by Ayala	TOTAL	Annual Growth	Growth 1997 to 2003
1997	2,063	5	2,068		
1998	1,669	5	1,674	-19.05%	
1999	1,573	5	1,578	-5.73%	
2000	1,544	6	1,550	-1.77%	
2001	1,538	7	1,545	-0.32%	
2002	1,516	7	1,523	-1.42%	
2003**	1,505	5	1,510	-0.85%	-27%
			Average	-4.86%	

Source of basic data: MWCI HRD

*Ayala Seconded employees are from Group Director and up.

The Ayala Group pays their salaries.

** as of March 31, 2003

In 1997, 2,165 MWSS staff transferred to MWCI.

As of 2002, there are 1,425 MWSS staff retained in MWCI.

Table 8-4: MWCI Employees, by position
As of March 2003

Category	Number of Employees	Percent to Total
Rank and file	1,089	72.1%
Supervisors	214	14.2%
Managers	202	13.4%
Top Management (seconded from Ayala)	5	0.3%
Total	1,510	100.0%

Source: MWCI HRD

8.4 Role of International Operators

Given the size of MWSS operations, it was earlier believed that no local private firm would be able to run a water utility of Metro Manila size. There was therefore a thorough consideration how to bring in foreign operators given a local law limiting foreign ownership and control of local business up to 40%. Not only were international operators expected to bring in foreign capital. They are to provide “international expertise in the provision and management of water supply, treatment and distribution, sewerage and sanitation services to both residential and business customers in urban areas relevant to the anticipated needs of the Metro Manila area”.¹ In fact, to ensure that the participating foreign firms will provide the needed foreign technology and expertise, MWSS pre-qualified those foreign firms that provided water service to an area with population over 2.5 million, water connections of at least a million through water mains totaling more than 10,000 kilometers.

But even before the bidding for the concession, international operators played a key role in the formation of consortia that participated in the bidding. There was initially very little interest from local firms to bid, recognizing that they have little, if any, knowledge of the water business and intimidated by the sheer size of the operations (i.e. Metro Manila). The international water operators gave local firms extensive briefings on how the concession can be approached. The selling point was that the water business is good business (good times or bad, people need to drink water; there are absolutely guaranteed customers who will provide a generous cash flow over the concession period).²

In the case of MWSI, they maximized the allowable extent of foreign participation in the concession. Lyonnaise des Eaux of France, one of the world’s largest water companies, put in a 40% stake in the West Zone concession. Lyonnaise des Eaux’s contribution with respect to technology transfer was to introduce technological know-how and provide technical assistance services to MWSI. The technology transfer was to consist mainly of i) technical documentation, ii) organization of training programs, iii) expertise missions, and iv) access to research and development.³

There are widespread accounts of discord between Benpres Holdings and Lyonnaise des Eaux. Although there is little written literature on the reasons for the shaky collaboration, one can certainly believe it could have contributed to the difficulties being encountered by MWSI.

For MWCI, United Utilities, B.V. and Bechtel Enterprises, Inc. are the major international

¹ MWSS, Sample Rate Bid for Service Area (January 1997)

² Dumol, Mark. The Manila Water Concession: A Key Government Officials Diary of the World’s Largest Water Privatization (July 2000)

³ Benpres-Lyonnaise Waterworks, Inc. “Zone West Technical Submission (Volume 1) – Consortium Strategy” (January 1997)

operators involved. United Utilities provides water, sewerage and other utility services worldwide while Bechtel operates in over 75 countries in civil works and other infrastructure projects. There seems to be no major concerns on the participation of these companies in the concession. There are observations though that the value-added to foreign operators participation in the privatization process may not be that high. The notion is that water distribution and sewerage services are not high-technology areas and know-how in these areas do not lend themselves to drastic improvements. The development of new technology does not obtain that frequently. As such, the value of foreign operators' contribution remains largely in the capital they infuse in the concession.

8.5 Capacity of the “Residual” MWSS in Managing the Privatized Water Utility

MWSS, a public enterprise created by law in 1971, had to be reorganized following the award of water concessions to private firms in 1997. The “National Water Crisis Act of 1995” provided the basis of MWSS reorganization. MWSS had to seek approval of the Department of Budget and Management to carry out its revised organizational structure and staffing plan. The functions of what now remains of MWSS (commonly referred to as “residual” MWSS) are: (i) administration and management of retained assets; (ii) administration of existing loans; (iii) providing bulk water; and (iv) development of new water sources.⁴ Regulation of the two concessionaires is also a key function of MWSS but is carried out by another entity under the MWSS Board of Trustees – the Regulatory Office.

Management of the reorganized MWSS is led by an Administrator who reports to the nine-member Board of Trustees. The company has three major departments: (i) Administration and Finance; (ii) Engineering and Project Management; and (iii) Asset Management and General Services (Figure 8-3). There are now some 104 personnel of the MWSS, including 68 staffs hired on contractual basis (Table 8-5).

It appears that because the MWSS functions have been reduced to monitoring financial health of the company even as it collects concession fees and services loan obligations, as well as to managing the utilities assets, the majority of the personnel are in administration and finance and in asset management.

Based on an assessment by the ADB for the current capability of the MWSS, the qualifications of the existing seem adequate. However, much is desired in the areas of financial (cash flow) management and accounting practices, information systems. In fact, the Commission on Audit made adverse observations on how MWSS prepared and presented the MWSS financial statements for 1999 and 2000. Apart from financial management and accounting and control issues, it does not undertake multi-year budgeting; a function necessary if effective financial management of the concessions is to be carried out.

The ADB recommended and is funding a capacity-building program that includes the following areas: (i) management accounting; (ii) corporate planning, budgeting and budgetary control; (iii) financial accounting; (iv) internal control and audit systems; and (v) data processing⁵. Though this capacity strengthening support is very important, there is still a concern that the company will not be able to retain trained and skilled personnel owing to the fact that MWSS is still subject to the Philippines Civil Service regulations and pay scale, normally not as competitive as that in the private sector. One does not need to go far and compare with other private companies to illustrate the disparity. For example, the former colleagues of these MWSS employees who are now employed by MWCI receive better

⁴ ADB, “Memorandum of Understanding with a Loan Processing Mission on the MWSS New Water Source Development TA Loan” (November 2001)

⁵ Ibid.

compensation and benefit package than their MWSS counterparts. Improving staff efficiency therefore also requires looking at the incentive schemes in addition to the capacity building activities that are being envisioned for them.

Figure 8-3: MWSS Organizational Chart

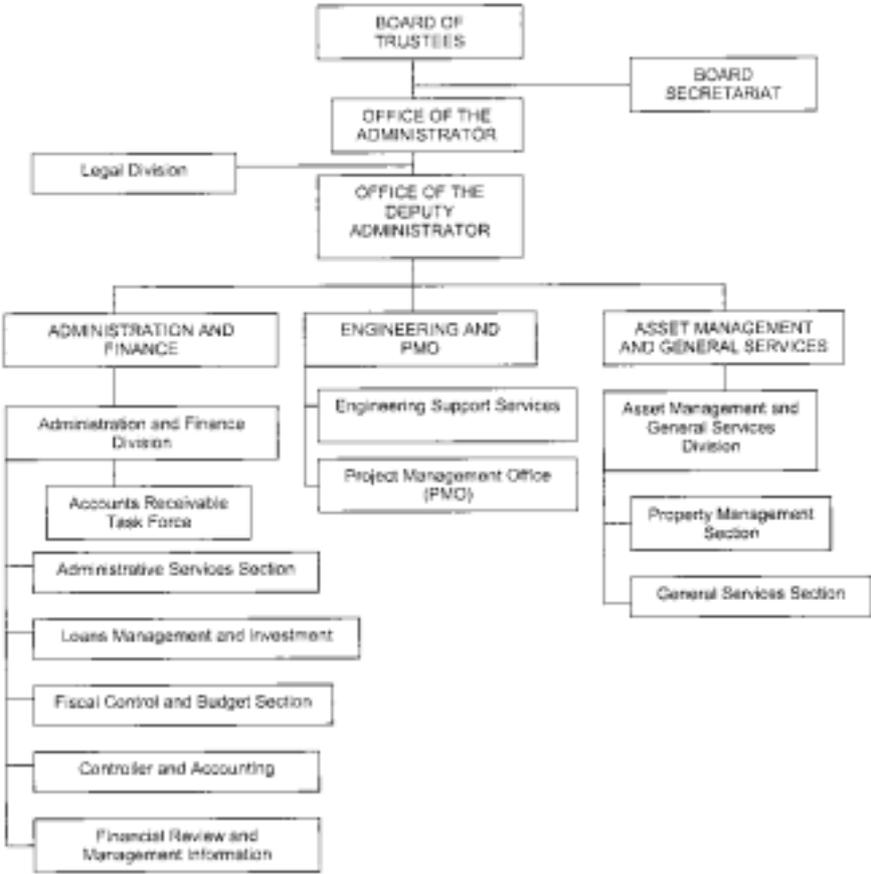


Table 8-5: MWSS Personnel

Department	Employees
Board Secretariat	14
Administrator's Office	5
Deputy Administrator's Office	4
Legal Division	6
Administration and Finance	28
Engineering and PMO	20
Asset Management and General Services	27
Total	104

Source: ADB, "Memorandum of Understanding with a Loan Processing Mission on the MWSS New Water Source Development TA Loan" (November 2001)

9. Role of Donors Agencies

Major donors to the Philippines like the World Bank, the Asian Development Bank (ADB) and the Japan Bank for International Cooperation (JBIC) play important roles in the provision of water and sanitation services in Metro Manila. The privatization of these services are therefore of immense impact on their respective programs with the Philippine government.

9.1 World Bank

World Bank was behind and continues to support major water supply, sanitation and sewerage development projects for Metro Manila. The MWSS completed the implementation of four water supply and one sewerage and sanitation projects funded by the World Bank. These are the Manila Metropolitan Water Supply Project (1964); Manila Water Supply II (1978); Manila Sewerage and Sanitation Project (1980; ADB co-financed this project.); Metropolitan Manila Water Distribution Project, (1986); and the Angat Water Supply Optimization Project, (1989). It is currently funding the Manila Second Sewerage Project.

As far as the privatization of the MWSS is concerned, the Bank advised the Philippine government to engage the International Finance Corporation, the private investment arm of the World Bank, in the privatization of water services for Metro Manila¹. The World Bank also supported the Public Performance Audit Project in 1999 (now called the Public Assessment of Water Services or PAWS), through the MWSS Regulatory Office.

The Public Assessment of Water Services or PAWS supported the MWSS-RO monitoring and evaluation of the performance of the concessionaires using the Concession Agreement service obligations as indicators. A multi-stage evaluation tool, the PAWS started with the assessment of water service delivery. The later stages will cover sewerage and sanitation service. Designed to be a continuing effort, with full implementation expected to be completed during 2003-2008. The PAWS piloted a survey covering 10,000 households in 100 barangays. The results are encouraging: 33% thinks service got better, 55% said about the same while 12% indicated the service worsened². On a per village tally, 94 barangays reported the service to be “good”, 4 “fair” 1 each “very good” and “poor”. Table 9-1 shows the detailed assessment gathered during the pilot run of the PAWS.

¹ Dahlen, Arne, “Overview of the World Bank Assistance in Sector Regulation and Agency Performance” (Powerpoint Presentation to the Water Forum 2002).

² MWSS-RO Primer: The MWSS Public Assessment of Water Services (PAWS) Project

Table 9-1: Consumer-Level Ratings by Concessionaire
(Percent of the Barangays presenting the stated rating)

	Very Good	Good	Fair	Poor	Very Poor
MWCI					
Network Quality	38	35	22	5	0
Water Quality	36	56	8	0	0
Service Quality	3	14	38	63	3
Overall	0	70	27	3	0
MWSI					
Network Quality	35	43	21	0	2
Water Quality	29	67	5	0	0
Service Quality	2	13	38	43	5
Overall	2	83	134	2	0
BOTH CONCESSIONAIRES					
Network Quality	36	40	21	2	1
Water Quality	31	63	6	0	0
Service Quality	2	13	38	43	4
Overall	1	78	19	2	0

Source: Redardet S.A./ Louis Berger Group Inc., "PPA Baseline Report" (Consulting Services for the Development of a Public Performance Assessment System)

9.2 International Finance Corporation (IFC)

The International Finance Corporation figured prominently in the privatization of MWSS. The decision-makers at the time felt that IFC has vast experience in privatization transactions and that being a multilateral organization, IFC would be ideal as advisers as they can be perceived as neutral and not identified with any particular country³. Also, the government can negotiate with them directly as they are a multilateral body. The MWSS Board then decided to hire IFC as the lead adviser and to secure the funds to pay IFC from a grant from the French government and from a loan from a government financing institution (the fee of IFC amounted to some \$6 million)⁴. The IFC then designed the structure of the privatization, including the concession agreements. It also assisted in the wide dissemination of information regarding the bidding, including making presentation on the modus operandi of the privatization process.

9.3 Asian Development Bank (ADB)

The ADB is a leading donor in the Philippines in water supply and sanitation development. It has so far supported more than 13 investment projects in the water and sanitation sector and more than 13 technical assistance grants. Two years before the privatization, ADB extended technical assistance grants to MWSS to strengthen its organizational structure and improve its water supply distribution network in Metro Manila. One grant was to finance a study review MWSS' overall operations and propose measures to improve efficiency. The other grant was to develop a project to reduce systems losses in the main distribution network, look at recommended ways to improve the existing water distribution system and other physical investments.

³ Dumol, Mark. The Manila Water Concession: A Key Government Officials Diary of the World's Largest Water Privatization (July 2000)

⁴ Ibid.

Even after privatization, ADB continued to extend funding support to improve the water situation in Metro Manila. It extended in 1999 a loan to MWSI amounting to some \$170 million (\$45 million direct ADB loan and \$126 million ADB CFS loan). This ADB loan financing was to support MWSI rehabilitate, expand and operate the West Zone concession⁵.

9.4 Capacity Building for the Regulatory Office of MWSS

In 2001, ADB approved a technical assistance grant to the MWSS for Capacity Building at the MWSS-RO. While it is meant to strengthen the MWSS-RO in the near-term, ADB expects that through the TA, a Water Regulatory Commission will eventually be established. Meantime, the TA aims to put in place fair and transparent regulatory mechanisms at the regulatory office. The training programs are designed to benefit not only the MWSS-RO but other public water utilities, private-sector operators, and concerned government agencies.

The institution-building TA of the ADB is very comprehensive. It covers the following areas: financial regulation (price adjustments and how to assess penalty on erring concessionaire); economic regulation (determination of discount rates and net present value; benchmarking; financial analysis (financial ratios and comparative analyses); and financial modeling. Improvements in technical regulation will focus on measuring service performance and remedial actions, asset valuation; water quality standard and assurance measures; and NRW measurement. The TA will also formulate objective performance indicators, including those on environmental impacts, and an operational monitoring program (Table 9-2, 9-3). Finally, it will also look into the legal issues found in regulation and review various legal frameworks, including that of the MWSS-RO to determine what would be more suitable in the Metro Manila situation⁶.

A number of training modules have now been conducted under the TA and some tangible impacts are expected to result from the TA project.

In addition, discussions between the Philippine government and the ADB are underway on another TA Loan to MWSS. This time, the object is at least a \$3 million loan to prepare public and private sector projects for new water source development.

This small loan from the ADB is meant to be a flexible TA loan facility to support consultants who will prepare public and private sector projects for new water source development that could be financed by ADB, the private sector, or other sources. Thus, the project will finance the feasibility study for the 50MLD Wawa River Project and feasibility study and detailed design for the Angat Water Utilization and Aqueduct Improvement Project⁷. It will also support the preparation of resettlement plans, review of existing design and tender documents, and financing arrangements for the Laiban Dam Project. The proposed loan to MWSS also includes a program for capacity building to strengthen financial management of MWSS.

⁵ ADB Website (2 May 2003)

⁶ "TA Approvals 1968-2002", (ADB Website, 2 May 2003)

⁷ "MWSS New Water Source Development (TA Loan)", (ADB Website, 2 May 2003)

Table 9-2: Key Performance Indicators⁸

Water Service (W)	W1 Domestic Connections W2 Continuity of Water Supply W3 Pressure of Water Supply W4 Water Quality at Plant Outlet W5 Water Quality in Distribution W6 Sampling
Sewerage and Sanitation Service (S)	S1 Domestic Connections S2 Sanitation S3 Wastewater Effluent Standards S4 Wastewater Coverage
Customer Service (C)	C1 Response to Customer Service Complaints C2 response to Customer Billing Complaints C3 Response to Request for New Connection C4 Response to disruptive mains failure

Table 9-3: Business Efficiency Measures⁸

Income (IN)	In1 Billed Volume In2 Revenue Collection Rate (Water & Sewerage)
Opex (OP)	OP1 Labour OP2 Power OP3 Total
Capex (CA)	CA1 Total Capex Expenditure CA2 Physical accomplishment
NRW (NR)	NR1 Non Revenue Water

9.5 Japan Bank for International Cooperation (JBIC)

JBIC involvement in Metro Manila water supply and sanitation dates back to the early phases of the Angat Water Supply Optimization Project (AWSOP) in the late 1980s. It extended co-financing of the phases 1-3 of AWSOP, contributing about \$80 million.⁹

The project financed from JBIC, AWSOP-Distribution Phase, is part of the bigger Project, the Angat Water Optimization Project (AWSOP). It was undertaken to improve the distribution system of the waterworks system of Metropolitan Manila for the demand projected for 1996. It considered the increased supply from Angat Dam to be brought in by the Umiray-Angat Transbasin Project (UATP) to be treated at the second La Mesa Treatment Plant (LTP-2). The Project involved the construction of a Treated Water Aqueduct, Treated Water Reservoirs and Pumping Stations, and the Laying of Primary Water Mains and Secondary Water Mains. House service connections are connected to water mains of smaller diameter, which are designated Tertiary Mains.

The Project took more than 10 years to implement, and, with 2-time extensions, officially ended on 11 May 2001. Because of the long delays many changes were made in the different Project components.

During the 5½ years delay in the completion of the Project, the distribution system had to undergo a fundamental change. The system, which was originally designed to operate as one integral whole, was split

⁸ Rate rebasing Project, MWSS-RO, "Business Efficiency measures and Key Performance Indicators for Manila Water and Wastewater Concessions" (Dec.2002)

⁹ MWSS, "MWSS Corporate Performance Report" (June 1996)

into two independent Zones, due to the privatization of MWSS operations. There was also an extraordinary increase in water demand during the long period of Project implementation, especially for the North area of Metro Manila. Despite these, which caused extensive changes in the development scheme to fit the changed conditions, the construction of the Project fortunately was substantially completed except for a few portions that are planned to be implemented later using Capex funds.

Prior to the privatization, JBIC (former OECF) received the letter of announcement on MWSS privatization from the Philippines government in June 1996. Former OECF sent the letter to MWSS that loan agreement (L/A) which was already effective for the projects would not be changed except when the borrower, the executing agency and the scope of the projects was changed due to the MWSS privatization. In July 1997, former OECF confirmed the following conditions based on the MOU between MWSS and concessionaires.

- a) The Borrower is a national government of Philippines.
- b) The executing agency is MWSS, which remains the ownership of facilities.
- c) The concessionaires have responsibilities of management of on going projects and of O & M after completion.
- d) Scope of the projects, procurement package and schedules shall not be changed according to the L/A.
- e) MWSS monitors the projects with the establishment of Project Management Office and makes review for the lender.

And former OECF requested to confirm the fairness in bidding process to MWSS, considering the possibilities of firms related to the concessionaires joining into the bidding.

9.6 Role of Donors in a Privatized Regime

There is little doubt the Philippines ODA partners, including the major funding institutions like the World Bank, ADB and JBIC, support greater private sector participation in the provision of water supply and sanitation services in Metro Manila. These donors however, because of the large investments they already put in on MWSS capital investment program before MWSS was privatized, are keen in seeing a successful privatization story. They are, therefore, extending further support, perhaps in different forms, to ensure that MWSS can manage the whole on-going privatization process.

ADB has already committed resources to support strengthening the regulatory function, an area widely thought to be wanting of reforms and improvements. It is currently discussing with government on the conduct of feasibility studies and designs of new water supply projects to anticipate increased demands in the next few years. The World Bank and the IFC are reported to be approached to look at possibilities of collaboration on how to resolve the impasse in the case of MWSI concession¹⁰.

With the enormous investment requirements of the Metro Manila water supply and sanitation network, and given the seeming inability of the concessionaires to carry out massive capital investments (as evidenced by their track records five years after signing the contracts), there is certainly much room for the donors to participate in the water supply and sanitation development for Metro Manila.

¹⁰ "IFC, Ondeo want to take over Maynilad" Manila Standard (10 April 2003)

10. Regulatory Mechanism

10.1 Importance of the Contract

It must be clearly recognized by both the public sector and the concessionaire that the concession agreement is not a perfect contract but an imperfect contract.

A perfect contract means that the contract is complete. Every contingency is anticipated; the associated risk is efficiently allocated between the parties; all relevant information has been communicated; nothing can go wrong. A perfect contract is also efficient. Each resource is allocated to the party who values it the most; each risk is allocated to the party who can bear it at least cost; and the terms of the contract exhaust the possibilities for mutual gain by cooperation between the parties¹. If the parties have negotiated a perfect contract, then the contract has no gaps, so the parties do not need the court to supply default terms. If the parties have negotiated a perfect contract, then the contract has no failures, so the parties do not need the court to regulate its terms².

Therefore for the international operators, who have accumulated experiences and huge backlog of negotiation know-how on the concession agreement, the concession scheme is some kind of a negotiation game with the regulator. Public Private Partnerships (PPP) are all about negotiating deals that are good for both sides at the time of the contract, but should be even during the implementation period after the contract.

It should be noted that once the contract is signed, competitive markets would not be existing in the concession agreement but existing only adjustment and/or re-negotiation in accordance with the stipulations of the concession agreement. Oligopoly limits the room for selection or substitution of operators at the bidding stage as well as the operation stage. This means that bargains can be very one-sided for international operators. Even if the operator is in serious breach of its obligation or becomes insolvent or some serious disputes occurs, it is not so easy for the public sector to terminate the concession contract and to provide an alternative operator.

Concession scheme is based on a long term contract, which is an imperfect contract. This means that negotiations between the public sector and the concessionaire for adjustments for contingent matters have to be made several stages, such as every year for inflation, every five years for tariff structure rebasing etc³. Such negotiations are usually made in accordance with stipulations and arrangements of the concession agreement signed at the time of the contract. Consequently, the concession agreement itself will determine everything from the beginning to the last stage during the contractual period.

Therefore ambiguous expression should be avoided and plain expression should be used in the concession agreement, especially stipulation on arrangement of tariff structure⁴.

¹ Rover Cooter = Thomas Ulen, Law and Economics (Second Edition), P. 196, Addison-Wesley Educational Publishers Inc. (1997)

² Ibid at P. 197

³ Refer to Article 9.1 to 9.4 of MWSS Contract

⁴ Example of ambiguous stipulations are Article 1 and Article 9.4. Article 1 (Definition of the Appropriate Discount Rate) stipulates that the Regulatory Office, at its sole discretion, may consider the Concessionaire's rate of return, either stated or implied in its bid, in determining the Appropriate Discount Rate, while Article 9.4 (General Rate Setting Policy / Rate Rebasing Determination) stipulate that ...and to earn a rate of return (referred to herein as the Appropriate Discount Rate) on these expenditures for the remaining term of the Concession in line with the rates of return being allowed from time to time to operators of long-term

10.2 Competition

Competition really exists or not.

- (1) The competition by dividing regions into several zones is workable or not.
- (2) The competition by unbundling of the water utilities is really workable or not.
- (3) Due to existence of globally dominant multinational water operators, is there a problem in competition?

First of all, we have to admit that the contents and conditions of the concession agreements differ depending on the individual circumstance of host countries including political and economical risks, requirements of host countries and physical states of the existing systems and facilities, but we would like to make comments on areas' competition.

First, under the concession scheme there is, in principle, only one real chance for competition; that is a time of bid for selection of a concessionaire. After signing of the concession contract, only comparisons for awarding incentives are possible, but it is not a real competition. Therefore, the competition by dividing regions into several zones is not a competition but a comparison. Second, since there is a finite number of operators who have capabilities and experiences to operate and manage the massive projects the natural consequence is that there is no potential competition.

In English and Wales cases, which have introduced areas comparisons, although their scheme is divestiture, yardstick competition system has adopted. This system is a comparative competition to address the problem of the water companies' monopoly. Through performance comparisons, OFWAT, who is a regulatory agency, derives yard sticks that it can use to assess the efficiency of water companies. Less efficient utilities are given more demanding efficiency targets and are expected to come up to the standard set by the best performers⁵.

As to a case of MWSS Privatisation, as it is stipulated in 11.2 (Clear Tariff Structure in the Concession Agreement), "the price cap model" and "the rate of return model" have been adopted. However, the biggest problem is that no incentive has been considered in the tariff structure in the contract and the regulator consistently insists to maintain the original rate of return of the bidding stage even at the time of negotiation on tariff adjustment. No incentive means no motivation for a concessionaire to impact on investment, operating efficiency and making a profit. This is the most serious defect in MWSS contract.

As a whole, competition between areas is, basically, meaningful if such competition or comparison is to give incentives to a concessionaire, but meaningless if no incentive is given to a concessionaire.

In other network industries such as electricity and telecommunications, unbundling is sometimes adopted to induce competition to cope with the natural monopoly problem by separating production from transmission through the network. For example, several electricity generators who compete each other to send power to consumers using one network.

Although water industries are one of network industries, unbundling of production and transmission does not lead to a competition. The reason is that networks related costs are a larger proportion of total costs in the water industry than in electricity and telecommunications. It means that the most of the revenues have to be distributed to the

infrastructure concession arrangements in other countries having a credit standing similar to that of the Philippines.

⁵ Caroline Van Den Berg, Water Privatisation and Regulation in England and Wales, Public Policy for the Private Sector, The World Bank Group Note No. 115 (1997)

company of the network system owner, and the revenue share of water collection and water treatment companies are relatively small if weighted investment costs are considered by splitting up ownership of the system. This means that competition in the small portion would be meaningless. This point is a big deference between other network industries and water industries.

First, it is pointed out that a core competence of multinational water operators is able to efficiently manage and operate integrated networks and systems. They are not mere water operators but global infrastructure companies involved also in wastewater, waste, gas, power, and telecommunication services. Their diversification is also expanding vertically to possess their own construction companies and engineering companies not only in their own countries but also overseas. This means that they can use finance from export credits and financing institutions in their own countries as well as finance from foreign countries. It can be said that biddings of concession scheme are made among multinational water operators.

Second, it is pointed out that the number of the said operator is finite, and there are few operators who have capabilities and experiences to operate and manage the massive projects. It is also noted that a core member of a concessionaire is the said operator. Consequently, a tender for selection of the concessionaire is made actually among the said potential operators. Newcomers will not appear due to risks and costs. For example, the costs of tendering for the massive projects are enormous. Bidding for these projects with tender periods with several months requires enormous efforts in terms of time and resources. Therefore, newcomers in general are not prepared to take the risk to match globally dominant multinational water operators, especially in case of a concession scheme.

Therefore, it is doubtful whether there is a real competition due to existence of globally dominant multinational water operators, which include their subsidiaries.

It might be said that bidding for the selection of a concessionaire at the initial stage is competitive, although it is carried out only among finite number of operators. Thereafter, the concessionaire selected by said bidding is regulated by the regulator but not by competitions. Only a next chance for competition is after the expiration date of the concession contract, when another bidding would be made again for selection of a concessionaire. This matter is stipulated in Article 9.1. of MWSS contract. Article 9.1 sets forth the provision after the Expiration Date which mentions that “without prejudice to the obligation of MWSS to pay any such Expiration Payment on the Expiration Date, it is the intention of MWSS, should it choose to solicit bids from private parties for the right to operate the system following the Expiration Date, to obtain a lump-sum cash payment from such parties as part of the consideration for the awarding of such rights and to fund any Expiration Payment required by this Section from the proceeds of such cash payment”.

10.3 Competence of the Public Sector, Especially the Regulator

The underlying target for a concession scheme is to improve performance under the control of a regulator, for which concession schemes should be designed to maximize net consumer benefits, measured primarily by lower prices and improved quality of service. However, to maintain a continuity of service is also important factor. In a view point of a concessionaire, costs are the most serious factors of concern to continue their operations. Therefore, the negotiation over costs review between a regulator and a concessionaire is a very important matter under a concession scheme. These fully depend on whether the regulator has accurate and enough information to make informed judgments as to the actual state of the concessionaire's operating standings and management states of the concessionaire during the concession period, whether the concessionaire meets the performance standards and whether the customers are well served. Management of information about the concessionaire, the

users, and the regulator is one of the most important key challenges facing concession arrangements. The capability and the competence collecting the information and performing their duty and obligations for the efficient performance of the concession contract by the concessionaire are naturally required for the regulators. For that purpose it should be strongly noted that the qualifications and the capabilities of the public sector, who are in charge of the regulations and in dealing responsibilities with the concessionaire, are important factors for the successful realization of the concession contract, even if the public sector turns over the concession right to the concessionaire. In contract no stipulation about the regulator's duties and/or qualifications of capability and competence to collect accurate information is mentioned in Article 7.1, which seems to entrust that any disputes would be settled by Appeal Panel stipulated in Article 12

The regulator has to recognize his tasks as follows.

1. The regulator is the controller for a concessionaire concerning prices of the service, service quality and eliminator of discrimination for users regardless of rich or poor.
2. A regulator position is to safeguard the legitimate interests of the concessionaire as well, since, if the concessionaire is to invest, they need to believe that the regulator will let them earn enough revenue to make a reasonable profit.
3. The regulator has to also recognize that the key to achieving efficiency lies in the best choice of a regulatory mechanism to oversee the concessionaire's performance. Good mechanisms protect consumers from high prices and low quality.

Therefore, the regulator must collect enough and correct information about actual operational situation of the concessionaire, in particular, about the relationship of the water price and the cost of the performance, for which a regulator would allow a concessionaire to make a reasonable profit. With imprecise cost estimates, there's always a risk that the regulator will set the price too high, hurting consumers and unnecessarily discouraging water use, or too low, encouraging the wasteful use of water and discouraging investment by water companies.

The regulator has to also recognize that the relationship of mutual trusts between the regulator and the concessionaire is also important. Such relationship is some kind of the fiduciary relationship⁶ rather than purely contractual relationship. If such relationship is destroyed, it means directly the chaos of the concession contract, by which the daily life of the consumer would be badly affected.

Multilateral and/or bilateral financing institutions would sometimes provide concessionary finances to water sector in developing countries. ODA would be provided as well. In general, recipient of said concessionary finances is the public sector, usually central government. The said concessionary finances would be provided to concessionaires from public sectors for the purpose to lighten their burden and to promote their investments. There might also be cases that the public sector provide subsidies or provide low cost finance such as the fiscal finance from the national budget. However, the execution of such investments are by the hands of the concessionaire, of which decision making such as the specification, the investment volume, selections of the vendors, and the schedule control etc. are in practice in a hand of the concessionaire. Under the such scheme, there might, as a matter of course, cause some conflicts among multilateral/bilateral and/or ODA authorities, public sectors of the host countries and private sectors as concessionaires on the view point of the public interest or the

⁶ One often in a position of authority who obligates himself or herself to act on behalf of another and assumes a duty to act in good faith and with care, candor, and loyalty in fulfilling the obligation

concessionaire's interest. Therefore, a competence and capable qualification toward the public sector are strongly required.

10.4 MWSS Regulatory Office

Regulation of the concessions in Metro Manila's water supply system is carried out by the MWSS Regulatory Office (MWSS-RO). The MWSS-RO is itself a creation of the Concession Agreements signed between the MWSS and the two Concessionaires, MWCI and MWSI. It consists of five members, headed by a Senior Deputy Administrator of the MWSS (who holds the title of Chief Regulator). The other members are the Regulators for Technical Regulation, Customer Service Regulation, Financial Regulation and Administration and Legal Affairs.⁷

(1) Decision-making

Decision-making is through majority voting, i.e. at least 3 votes from the 5 members. The Chief Regulator leads the deliberations conducted by the Regulatory Office and is the de facto principal spokesman of the office. He has the power to hire and professional staff of the RO.

(2) Functions

The key functions of the MWSS-RO are to monitor the East and West Concession Agreements, review and monitor water supply and sewerage rates, and decide on requests for Extraordinary Price Adjustment (EPA) and Rate Rebasings by the Concessionaires. Three regulation areas comprise the core work of the MWSS-RO, namely a) technical regulation, b) financial regulation, and c) customer service regulation.

The objective of MWSS-RO's financial regulation is to ensure the financial soundness of the operations of the two concessionaires by conducting regular and independent audit of the financial statements of the concessionaires. It is responsible for determining penalties if concessionaires fail to deliver their service obligations and payments due to termination of contract. MWSS-RO's Financial Audit and Asset Monitoring Department looks into the Concessionaires' financial information, cost allocation and accounting practices. The Tariff Control and Monitoring Department, on the other hand, is responsible for determining the Extraordinary Price Adjustment, rate rebasing, calculating the standard rates as well as the Concessionaires' Appropriate Discount Rates.

Customer service regulation by the MWSS RO is carried out by two departments: The Meter Efficiency Department and the Complaints Services and Monitoring Department. The Meter Efficiency Department ensures that the customers are provided with appropriate and efficient metering, billing and water and sewerage service connections and ensures compliance with acceptable technical standards. It also monitors the non-revenue water programs of the Concessionaires through efficient metering system. On the other hand, the Complaints Services and Monitoring Department makes sure the Concessionaires' customer service responds to the requirements of the consumers, such as programs that allow for smooth feedback of complaints, and faster resolution of customer concerns. It ensures that the Concessionaires comply with the service obligations on water supply, sewer and sanitation coverage targets, provisions of alternative water supply and other customer service standards.

The function of the MWSS RO technical regulation is to monitor and ensure compliance by the concessionaires to provide the public with safe, potable and continuous supply of water.

⁷ MWSS-RO Flyers. IFC, "Preliminary Information on Transaction Structure" (July 1996)
Concession Agreement

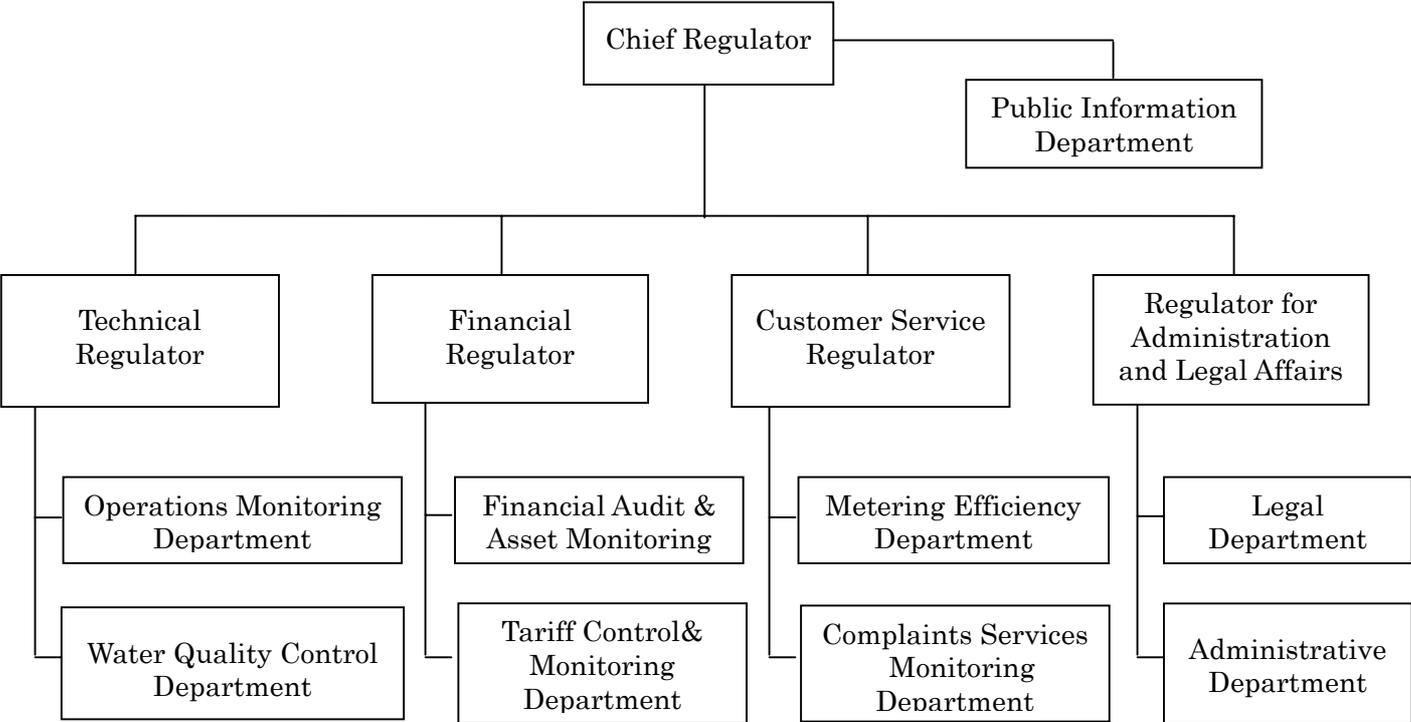
The RO's Operations Monitoring Department carries out on-site monitoring of the Concessionaires' ongoing projects, making sure they follow safety precautions, do not unduly disrupt traffic during construction and that their contractors follow appropriate methods of construction. This unit, as part of the rate-rebasing activity, reviews whether the project proposed by the concessionaires are needed, cost efficient and adhere to established project costings. The Water Quality Control Department ensures water quality, i.e. it meets the Philippine National Standards for Drinking Water, and that the waste water effluent complies with DENR Standards. This department also measures the sanitation/sewage service coverage targets of the Concessionaires.

An Administration and Legal Affairs unit is also established within MWSS-RO to provide logistical and legal support. The Administration Department recruits, deploys, provides training and looks after the welfare of the personnel of RO. The Legal Department provides overall monitoring of the compliance of the Concessionaires with their obligations under the Concession Agreement. It therefore acts as a referee in addressing disagreements, disputes, controversies or claims that arise in the execution of the Concession Agreement. In cases where its decisions are challenged, it defends the RO proceedings before the Appeals Panel. It is also tasked to prepare contracts and formulate legal opinions on matters relating to the implementation of the Concession Agreement.

(3) Organizational structure and staff profile

Figure 10-1 presents the organizational structure of the MWSS-RO. Apart from the four core units (technical, customer service and financial departments and the administrative unit), a Public Information department provides communications campaign support to the operations of the MWSS-RO.

Figure 10-1: MWSS-RO Organizational Structure



The MWSS-RO, while created by concession, follows the Philippine government civil service pay structure for its personnel remuneration. The Chief Regulator receives a pay equivalent to Salary Grade 29. The Deputy Regulators are 1 salary grade below the Chief Regulator while the managers are at grade 26. The lowest salary grade for technical staffs is 18.

There are currently 55 staff members employed by the MWSS-RO, including management personnel. Full complement (i.e. all positions approved by the government) is 69 employees. The staffs of MWSS-RO are relatively young. About two-thirds are below 45 years old. In fact, around a third is between the ages of 25-35 years.

(4) The MWSS-RO Budget

The annual operating budget of the MWSS-RO comes from the concession fees from the two Concessionaires. MWSS allocates from the concession fee payments an amount it determines following a formula specified in the Concession Agreement – initially (for 1997), P50 million, to be adjusted every year based on CPI movements. For the period 1997-2002, the MWSS-RO received a total of P636 million, or an increase by over ten-fold from the initial budget allocated in 1997 of P50 million (Table 4-3). Last year (2002) alone, the office received a total of P137 million, representing a per-capita budget of P2.5 million.

Table 10-1: Concession Fee Current Operating Budget

(In Php Millions)

Year	MWCI	MWSI	TOTAL	Growth	Year	MWCI	MWSI	RO Budget	Growth
1997	50	50	100		1997 to			50.00	
1998	105.9	105.9	211.8	112%	2002	112%	112%	105.90	112%
1999	116.28	116.28	232.56	10%		10%	10%	116.28	10%
2000	123.95	123.95	247.9	7%		7%	7%	123.95	7%
2001	129.64	75.93	205.57	-17%		5%	-39%	102.79	-17%
2002	137.42	137.42	274.84	34%		6%	81%	137.42	34%
Total	663.19	609.48	1,272.67	29%	1173%	28%	34%	636.34	29%

Note: RO budget is half of the total concession fee current operating budget (I.e. divided equally between MWSS and RO).

Source of raw data: MWSS-RO

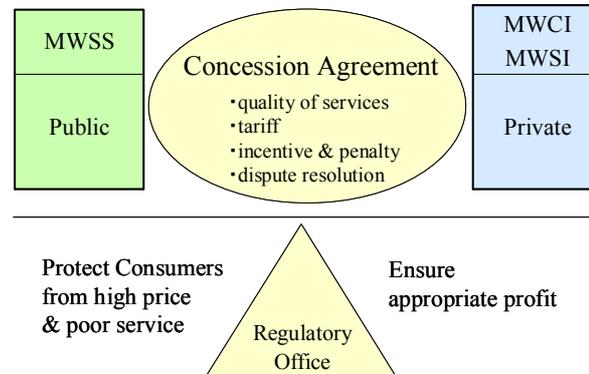
(5) Resolving disputes

The Concession Agreement provides for the MWSS-RO to resort to two remedies in cases of disagreements. One is through consultation and negotiation. If these modes are not possible, cases are brought to an “Appeals Panel”, comprising three members, nominated each by the concessionaires and the MWSS-RO who conduct their proceedings following the procedures of the United Nations Commission on International Trade Law. The Concession Agreement expected rate rebasing as a major bone of contention and therefore already provided for procedures how the Appeals Panel will deal with such issues.

Already, the MWSS-RO decided on Amendment 1 which allowed the concessionaires to increase the tariffs to reflect substantial foreign exchange fluctuations and other considerations. There are now several tariff rate increases approved by the MWSS-RO.

(6) Balancing mechanism

Figure 10-2: Balancing between MWSS and concessionaires



The regulation arrangements for the PPP scheme for MWSS were, as most believe, organized with much haste. This is borne by the fact that the privatization process itself took a short period of time to be finalized. The MWSS-RO's character as an independent regulator given where it is situated in the overall institutional scheme can be a subject of controversy. Firstly, it is a special office of the MWSS, and as such, can be answerable to the MWSS Board of Directors for its actions. This itself lends itself to questions whether it can be fully impartial in carrying its refereeing role. Secondly, it is sustained financially by fees collected from the concessionaires. Its budget, though indirectly, can therefore be subject to the financial performance of the private sector participants. Again, decisions on tariffs can be somewhat influenced by how these impact on the finances of the concessionaires, and therefore eventually of their contributions (through the concession fees) to the MWSS-RO budget. The regulators are therefore in a situation where they need to carefully balance their role as independent adjudicators while under some degree of implicit influence from the three parties.

It should be fully noted that items to be regulated are price, quality of service and assurance of continuity. However, other two elements and price are in correlation. Therefore, price regulations are most important among others, which is left to regulators' discretion of which decision making is to be made in accordance with the stipulations of the concession contract. Prices should be decided so that reasonable costs under competent management plus a reasonable return on operations are equal to gross income, of which formula has been adopted in Article 9.4 of MWSS privatisation contracts at the contract stage, however it was not functioned at implementation stages because of problems of the regulator side concerning grasping the accurate and adequate cost and reasonable rate of return for long-term capital investment with a mind of continuity.

As to MWSS privatisation project, General Rate Setting Policy and Rate Rebasement Determination are set forth in Article 9.4 of the concession agreement, however it is doubtful whether the regulator has really understood and complied with the stipulations.

10.5 Dispute and Arbitration

From the first stage of MWSS privatization project, it was continuations of disputes between the regulator and the concessionaires over interpretation of contracts, although a concession agreement is a negotiation deal as mentioned in 3.2 (3). We would like to analyze such disputes as our suggestions and recommendations for future similar projects.

(1) Dispute over Interpretation of Contracts

As in most contractual arrangements, certain aspects of the concession agreement will likely lend themselves to dispute especially when the concessionaires encounter situations that were not factored in during the bidding stage (e.g. treatment of extraordinary foreign exchange fluctuations). The concession agreement provides for mechanisms how to deal with disputes arising from the implementation of the concession agreement. Article 12 of the Concession Agreement encourages amicable settlement of disputes but if this is not feasible, arbitration procedures are laid out as well.

For disputes requiring arbitration, an Appeals Panel is created which carries out its proceedings in accordance with the arbitration rules of the United Nations Commission on International Trade Law. But even without any disputes arising, an Appeals Panel still needs to be created per the Concession Agreement. This panel is created just before each rate rebasing period (i.e. before each December of years 2002, 2007, 2012 and 2017)⁸.

The composition of the Appeals Panel varies depending on the dispute being resolved. For major disputes (e.g. rates arising from rebasing, extra-ordinary price adjustment, calculation of amount to be paid in case of termination of concession, amount of cross-boundary flows, removal of a regulator, etc.), the MWSS-Regulatory Office and the concessionaire each appoint a member to the panel, and the International Chamber of Commerce Chairman designates a third member as head of the panel. For minor disputes, the MWSS-Regulatory Office and the concessionaire each appoint the members who in turn designate a third member as head of the panel.

Decision-making is by simple majority and to be completed within 90 days from receipt of dispute notice. So far, a number of disputes have been brought to the Appeals Panel. For example, the MWCI brought a case involving the question of appropriate discount rate (it argued that it should be 18% while the MWSS-RO, citing a provision of the agreement vesting the Regulatory office with sole discretion on the issue of ADR, insisted that 5.2% rate of return was appropriate)⁹. The Panel decided on 9.3% ADR. There was initially reluctance on the part of MWSS-Regulatory Office to accept the decision and in fact brought the case to the local courts to review the decision but later relented and accepted the verdict of the Appeals Panel.¹⁰

From the end of 1997 to the middle of 1998, which was immediately after the concessionaires started their operation, unforeseen events of water shortage by El Nino and Peso currency devaluation occurred. In the concession agreement, when events, such as changes of service obligations and policy changes by the public sectors (Article 9.3.1(i) and (ii)), events of Force Majeure (including water shortage by El Nino)(Article 9.3.1(xi), the currency fluctuation over 2% (Article 9.3.1 (vi), price adjustments are admitted as Extraordinary Price Adjustment (EPA). Accordingly both concessionaires applied price adjustment to the regulatory office in March 1998. However, MWSS regulatory office admitted very limited direct cost of measure only against El Nino as EPA reason, then disputes were occurred between the regulator and concessionaire.

The crucial issue which concessionaires considered as the serious problem was interpretation of the Regulatory Office concerning figures of Appropriate Discount Rate stipulated in Article 9.4. Article 1 (Definitions) defined that Appropriate Discount Rate means, at any time, the

⁸ MWSS-RO "Presentation to the JBIC Study Team" (January 20, 2003)

⁹ Rivera, Virgilio C Jr. "Restructuring, Regulation, Price Setting and Serving the Urban Poor: the Case of Manila Water Company under the MWSS Privatization" (Sept. 2002)

¹⁰ Ibid.

real (i.e., not inflation adjusted) weighted average cost of capital (after taxes payable by the concession business). In determining the Appropriate Discount Rate, the Regulatory Office shall estimate the cost of debt in domestic and international markets, the cost of equity for utility businesses in the Philippine and abroad and shall make adjustments to such estimates to reflect country risk, exchange rate risk and any other project risks. The Regulatory Office, at its sole discretion, may consider the Concessionaire's rate of return, either stated or implied in its bid, in determining the Appropriate Discount Rate.

Concerning figures of Appropriate Discount Rate, naturally concessionaires claimed and demand figures of rate of return being allowed to operators of long-term infrastructure concession arrangements in other countries, which is stipulated in Article 9.4. As opposed to the claim of concessionaires, the regulator judged Appropriate Discount Rate is a rate of return which concessionaire proposed at the bidding stage.

Then, concessionaires filed complaints to the Appeal Panel as disagreements in accordance stipulations of Article 12 of the contract. Appeal Panel showed compromise figures, which partially accepted concessionaires' claims. However, the regulatory office recited an objection about Appeal Panel's decision and requested Appeal Panel to reconsider it in spite of the stipulation of Article 12.5 which is mentioning that "any decision or award of the Appeals Panel shall be final and binding upon the parties hereto. To the maximum extent permitted by applicable law, each parties hereby waives any right to seek any interlocutory or other relief from any judicial regulatory body, or to appeal or seek the review of an Appeals Panel award by any regulatory body or other tribunal."

Dissent made by the regulatory office was that referring "to the maximum extent permitted by applicable law" stipulated Article 12.5 (Waiver of Right to Appeal), the regulator insisted he has a right to correct the decisions of Appeal Panel in case arbitrators of Appeal Panel made judgment on the basis of inaccurate information or beyond his competence in accordance with Arbitration Law of Philippines. Existence of Appeals Panel was expected to be a very big factor as a safety valve to the concessionaires.

(2) Importance of Assurance of Continuity

French jurisprudence has developed and elaborated three core principles of public service law, which have been basis of a concession scheme:

- continuity of service,
- equality of users (non-discrimination), and
- continuing adaptation to circumstances

Contracts for the delivery of services to the public (rather than to the public entity) are not subject to the general provisions of the French code of public contracts.

We think that all public utilities should be served under this concept regardless of jurisprudence, especially in case of execution under PPP scheme.

In MWSS case, Article 5 is stipulation about service obligations of the concessionaire. Article 5.1.2 (Continuity of Supply) stipulates that the concessionaire shall ensure the availability of an uninterrupted 24 hour supply of water to all connected customers in the service area. However, it seems that an assurance of continuities is weak in MWSS contract, which may be only a performance bond stipulated in Article 6.9 and an equity capital stipulated in Article 6.11. In other words, in MWSS contract it is a major premise that the public sector, e.g. MWSS, would have a final responsibility for assurance of continuity toward users of service areas from a view point of stipulations of Article 10 (Events of Early Termination; Penalties). This matter has been stipulated in Article 7.2 that MWSS hereby appoints the Concessionaire as its agent and representative, for purposes of, among others, Section 3(k) of the Charter, in

its name, place and stead, to apply for and exercise its easement, eminent domain, right of way and similar rights and powers given to MWSS under its Charter in connection with infrastructure projects and works undertaken relating to the Concession by the Concessionaire in the Service Area pursuant to this Agreement. Therefore, Competence of the Public Sector is important not only as a regulator but also as an operator and a project-executing agency.

(3) Importance of Remedy

Article 12 of MWSS contract stipulates dispute resolutions of which final aims are continuities and no interruption in the delivery of essential public utilities services, e.g. water services. In other words, Article 12 is stipulations of the remedy, which is admittedly extra-contractual because it would go beyond the will of the parties. However, final resolution always has to be made in the interest of public service and users.

As mentioned in 3.2 (3) a scheme of a concession contract has been formed up on the basis that negotiations, adjustments and changes of a contract would be made upon being put an assurance of a continuity as a top priority, which means that the principle of ensuring continuity of public services supersedes the principal that a contract is concluded once and for all. The regulator has to understand and recognize this matter well.

10.6 Notice of Termination of the MWSI Concession

On December 9, 2002, MWSI served notice to the MWSS-Regulatory Office that it has decided to terminate its concession agreement with the government. MWSI cited “compelling financial, regulatory and natural causes in the last five years” forced us to decid to end the water contract¹¹. It referred to the drought (El Nino phenomenon) that limited water supply, the Asian financial crisis in 1997 and delayed completion of river basin projects that affected the viability of the MWSI operation of the West Zone.

The biggest complaint of MWSI and therefore its primary reason for the desire to cut off from the water deal is that “failure of the...MWSS to perform all its obligations on time and cooperate in the manner set forth in by the concession agreement seriously impaired the concession’s viability”.¹²

The notice of termination initiated finger-pointing between the MWSS and the MWSI, with consumer groups, activist organizations, and even the religious sector joining the debate. MWSS claims that it has given way to most of the requests of MWSI to make its operations viable, including tariff increases to offset foreign exchange losses. Indeed, the MWSS allowed MWSI substantial tariff increases since 1997 and even extended financial relief when it assumed payments of loan obligations that are supposed to be covered by the MWSI concession fees which it ceased paying since March 2001. Arrears of MWSI in concession fees now amount to over P4 billion. According to MWSS-Regulatory Office, there were two areas of disagreement: a) the petition by MWSI to increase the tariffs by an average of P32/cu.m. (the rate rebasing exercise recommended P26/cu.m.); and b) MWSI request to be exempt from paying concession fees.¹³

MWSI moved to rescind from the concession agreement drew strong reactions from several

¹¹ “Maynilad seeks end to water contract”, Philippine Daily Inquirer (December 10, 2002) p. A-18.

¹² Statement of Rafel Alunan, MWSI President, quoted in the article “Maynilad seeks end to water contract”, Philippine Daily Inquirer (December 10, 2003) p. A-18.

¹³ “Bishop scores Lopez for ‘corporate gree’”, Philippine Daily Inquirer (December 11, 2002) pp A-1 and A-4.

sectors. It was criticized for blaming government for its financial problems, and Benpres is even accusing of initiating the termination process to recover substantial amount from the government to pay off huge Benpres debts incurred by its other business interests, and that are due to mature. (There are reportedly \$600 million in such debts maturing around this time.) Activist movements (NGOs, labor groups) took the termination notice as a cue to start compelling government to take over the West Zone concession, even making the MWSI notice to terminate already an evidence of “gross failure of the government’s privatization scheme”¹⁴. They also pointed to what they consider huge expenditures on foreign consultants as another reason for the financial woes of the company.¹⁵ Perhaps the most stringing criticism came from the very influential Catholic Church leadership who consider Benpres’ representations a manifestation of “corporate greed”.

MWSI parried such criticisms by citing changed circumstances since they started the concession. These include the huge depreciation of the peso (effectively doubling the debt service it took over from MWSS), which necessitated a) MWSI securing bridge (short-term) financing to be able to both service these MWSS obligations and continue paying the concession fee; b) MWSI seeking restructuring of these loans; and c) MWSI imposing tariff increases¹⁶. The burgeoning costs of operations on the other hand were attributed by MWSI to larger-than-expected expenditures to rehabilitate aging pipes that MWSI claims to be longer than what was indicated in the bid documents.¹⁷

In any case, the MWSS last April required the MWSI to pay by April 11 the overdue concession fees amounting to some P4.6 billion. This order was deplored by MWSI, arguing that this matter should be part of the on-going arbitration procedures.¹⁸

The arguments are now being heard by the Appeals Panel headed by a Danish judge, a retired Supreme Court justice appointed by the MWSS and a lawyer appointed by MWSI. Any decision by the panel is expected in one party paying the other some \$300 million. Already, the panel on 2 May 2003 ordered MWSI to post to the MWSS a \$150 million performance bond¹⁹. This performance bond, reported by the Government corporate lawyers, “protects against loss due to the contractor’s inability or refusal to perform his contract”²⁰. Meanwhile, the international partner of Benpres in MWSI, Ondeo, is reportedly arranging for buy out by IFC of some 11% share of Benpres to arrange for an Ondeo-IFC controlling stake in MWSI and possibly take over the concession.²¹ MWSI indicated that it continues to operate the concession area to ensure that service to the population of the West Zone is not adversely affected even as the legal implications of the termination are being resolved.

¹⁴ Ibid.

¹⁵ Labor group leader asserts that MWSI paid some P1.2 billion for foreign consultants. Quoted in the news article “Alunan: We no longer have answers to save Maynilad”. Philippine Daily Inquirer (December 12, 2002), headline.

¹⁶ “Why Maynilad is losing money”. Letters to the Editor (Philippine Daily Inquirer). December 17, 2002, p A10.

¹⁷ Ibid. Maynilad claims that the bid documents did not accurately reflect the actual age of the pipes (average of 69 years per MWSI estimate vs. 57 years by MWSS estimate), and the actual length of the pipes (3,700 kms. vs. 2,500 indicated in the bid documents).

¹⁸ “IFC, Ondeo want to take over Maynilad”, Manila Standard (April 10, 2003)

¹⁹ “Maynilad asked to post bond, not cash”. Philippine Daily Inquirer (May 7, 2003), p A3

²⁰ Ibid.

²¹ “IFC, Ondeo want to take over Maynilad”, Manila Standard (April 10, 2003)

11. Tariff Setting and Rate Adjustment

11.1 Tariff Structure in the Concession Agreement

Structuring the tariff and the accompanying regulatory system are the most complicated but important parts of the concession agreement. Therefore, it is strongly suggested that careful and prudent but clear provisions and formulations have to be established in the concession contract. Among others, following points should be noted.

- 1) How tariff may be changed and/or adjusted during the contractual period
- 2) Adequate tariff level, which allows the concessionaire to make a reasonable profit to assure a continuation of operation.
- 3) Wordings of above 1) and 2) in the contract have to be carefully made so that misinterpretation and/or dispute will not occur during the contractual period.

We can conclude that tariff structure for contingent events including foreign currency exchange risks matters that are stipulated in Article 9.1 (Standard Rates / CERA Fee) and Article 9.3 (Extraordinary Price Adjustment: EPA) of contract are reasonable and acceptable. However, as a conclusion, in case of MWSS contract, it can be pointed out that disputes occurred in interpretations of the contract caused by ambiguous expression in the contract although tariff structures are clear. It is pointed out that wordings “at the discretion of the regulator e.g. MWSS” have been overused in contract¹, of which one-sided discretion would have caused many disputes between concessionaires and the regulator.

Tariff Structure of MWSS Concession Contract consists of 2 elements, Standard Rate (Article 9.1) and Rate Adjustment (Article 9.2), of which outlines are as follows:

Standard Rate = ① + ② + ③ + ④

① Standard Rate effective on the Commencement Date:

Set out in Schedule 5 to be amended from time to time in accordance with the provisions of Article 9.

② Currency Exchange Rate Adjustment (CERA)

The currency exchange rate adjustment of one Peso per cubic meter of water consumed above the Standard Rates as permitted by Section 9.1

③ Environmental Surcharge

Upon the first Rebasing Date (January 1, 2003) the environmental surcharge (10%) will be abolished and a sanitation charge equal to 75% of the corresponding water bill will be established for Customers not connected to the sewerage network. (Schedule 5 / Exhibit E)

④ Rate for Sewerage Services

The rate for sewerage services will increase from 50% to 150% of the corresponding water bill upon the first Rebasing Date (January 1, 2003) as stipulated in Exhibit E. (Schedule 5 / Exhibit E)

¹ Refer to Article 1 (Definition of Appropriate Discount Rate), Article 9.4 (General Rate Setting Policy / Rate Rebasing Determination)

Rate Adjustment

(1) Annual Rate Adjustment for Standard Rate (Article 9.2)

Standard Rate is to be adjusted annually according to, in principle, inflation rate as measured by the consumer price index (CPI).

(2) Currency Exchange Rate Adjustment (CERA)

CERA means the Currency Exchange Rate Adjustment of one Peso per cubic meter of water consumed above the Standard Rates as permitted by Section 9.1.

Ground for Extraordinary Price Adjustment (GEA) shall be applied in case that currency exchange rate fluctuations with more than 2% has occurred in respect to MWSS Loan and/or Concessionaire Loan²

(3) Extraordinary Price Adjustment (EPA) ³

EPA shall be applied in case of amendment of the service obligation, change in laws, event of *force majeure* etc.⁴

(4) Rate Rebasing⁵

Rate Rebasing shall be made every 5 years to allow the concessionaires to recover operating, capital maintenance and investment expenditures over the 25-year term of the concession with calculations are based on the past and future cash flows.

Tariff formulation of both modification schemes of “the price cap model⁶” and “the rate of return model⁷” have been adopted. Under a price cap approach, which has been adopted as a regulatory structure of England and Wales, water prices are set for a number of years such as every five years. The price cap model allows incentives to a concessionaire that if it achieves higher than expected efficiencies, therefore lower costs, it can keep the savings as profit, until the next periodic price review. Under the rate of return approach, widely applied in the US, an allowable level of profit is determined, which is often in the range of 6 to 12 percent, and a concessionaire is allowed to charge rates that result in that level of profit over its costs⁸. Article 9.4 of the contract stipulates that “--- a rate of return (referred to herein as the Appropriate Discount Rate) on these expenditures for the remaining term of the Concession in line with the rates of return being allowed from time to time to operators of long-term infrastructure concession arrangements in other countries having a credit standing similar to that of the Philippines.” However, an expression of “in line with the rates of return being allowed ---” is ambiguous and consequently came to a dispute especially during the negotiation at time of second rate rebasing date.

11.2 Rate Adjustment Mechanism in Amendment I

Automatic tariff adjustment for immediate relief from currency devaluation with three (3) separate water tariff adjustment mechanism to recover past, present and future foreign exchange losses.

a) Past Foreign Exchange Losses – Accelerated Extraordinary Price Adjustment. (AEPA).

This tariff adjustment is applied from October 2001 to December 2002 to recover foreign

² Article 9.3.1 (vi)

³ Article 9.3

⁴ Force Majeure,

⁵ Article 9.4

⁶ A scheme of the maximum price which water companies can charge. In UK, this scheme is based on the formula of inflation (RPI) plus K factor which is incentive against performance of water companies.

⁷ A scheme of costs plus profit which water companies can is allowed to charge. It is said normal rate of profit is about 6% to 12%.

⁸ OECD Global Trends in Urban Water Supply and Waste Water, Financing and Management : Changing Roles for the Public and Private Sectors, Page 27, CCNM/ENV(2000)36/Final.

exchange losses from 1997 to 2000.

b) Current Foreign Exchange Losses – Special Transitory Mechanism

c) This tariff adjustment is applied starting July 2002 to recover foreign exchange losses in 2001 and losses in 1997 to 2000 not recovered through AEPA

d) Future Foreign Exchange Losses – Foreign currency differential adjustment. This tariff rate adjustment is set quarterly and applied for the remainder of the concession period to recover foreign exchange losses incurred in 2002 and onwards

In rate rebasing formula, the NPV approach in tariff setting has certain limitations. It assumes too much of the future. The compromise with the concessionaires was Amendment No.1 which is to recover all cost during the concession's life and for immediate recovery of forex fluctuations

Table 11-1: Tariff Structure
(cross subsidies)

TARIFF STRUCTURE
(in pesos/cubic meter)

1. WATER CHARGE

		1996	1997		1998		1999		2000		2001		2001		2002	
		MWSS	MWCI	MWSI	MWCI	MWSI	MWCI	MWSI	MWCI	MWSI	MWCI (up to Mar)	MWSI (up to Oct)	MWCI	MWSI (Oct to Dec)	MWCI	MWSI
A. BASIC CHARGE																
Average	pesos/m3	8.78	2.	4.96	2.32	4.96	2.61	5.80	2.76	6.13	2.94	6.58		10.79		11.39
	% change		-74%	-44%	0.0%	0.0%	12.5%	16.9%	5.7%	5.7%	6.7%	7.3%		64.0%		5.6%
By Type																
Residential																
First 10 m3	pesos per conn	29.50	7.78	16.69	7.78	16.69	8.75	19.52	9.25	20.63	9.88	22.15		36.32		38.35
Succeeding m3	pesos/m3 (range)	3.60 - 12.00	0.95 - 3.16	2.03 - 6.79	0.95 - 3.16	2.03 - 6.79	1.07 - 3.58	2.37 - 7.94	1.13 - 3.78	2.51 - 8.39	1.21 - 4.01	2.70 - 9.01		4.43 - 14.77		4.68 - 15.60
Above 200 m3	pesos/m3	12.50	3.29	7.07	3.29	7.07	3.70	8.27	3.91	8.74	4.17	9.39		15.40		16.26
Semi-Business																
First 10 m3	pesos per conn	49.50	13.06	28.01	13.06	28.01	14.70	32.76	15.53	34.63	16.58	37.20		61.01		64.42
Succeeding m3	pesos/m3 (range)	6.05 - 12.50	1.59 - 3.29	3.42 - 7.07	1.59 - 3.29	3.42 - 7.07	1.79 - 3.70	4.00 - 8.27	1.89 - 3.91	4.23 - 8.74	2.02 - 4.18	4.54 - 9.39		7.44 - 15.40		7.86 - 16.26
Above 200 m3	pesos/m3	13.00	3.43	7.35	3.43	7.35	3.86	8.60	4.08	9.09	4.35	9.76		16.00		16.90
Commercial																
First 10 m3	pesos per conn	134.00	35.36	75.83	35.36	75.83	39.79	88.68	42.06	93.73	44.89	100.66		165.06		174.29
Succeeding m3	pesos/m3 (range)	13.45 - 14.95	3.54 - 3.94	7.61 - 8.46	3.54 - 3.94	7.61 - 8.46	3.98 - 4.43	8.90 - 9.89	4.21 - 4.69	9.42 - 10.45	4.49 - 5.00	10.11 - 11.22		16.58 - 18.40		17.51 - 19.43
Above 10000 m3	pesos/m3	15.00	3.95	8.48	3.95	8.48	4.44	9.92	4.70	10.49	5.01	11.27		18.48		19.51
Industrial																
First 10 m3	pesos per conn	145.00	38.26	82.05	38.26	82.05	43.05	95.95	45.51	101.42	48.57	108.91		178.59		188.89
Succeeding m3	pesos/m3 (range)	14.60 - 17.60	3.85 - 4.64	8.26 - 9.96	3.85 - 4.64	8.26 - 9.96	4.33 - 5.22	9.66 - 11.65	4.58 - 5.52	10.21 - 12.31	4.89 - 5.89	10.96 - 13.22		17.97 - 21.68		18.98 - 22.89
Above 10000 m3	pesos/m3	17.70	4.67	10.01	4.67	10.01	5.20	11.71	5.55	12.38	5.93	13.29		21.79		23.01
B. CERA																
	pesos/m3	1.27	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

2. a ENVIRONMENTAL CHARGE (EC) EC = 10% of the Water Charge
b SEWERAGE CHARGE (SC) SC = 50% of the Water Charge for all customers connected to the MWSS sewerlines

3. MAINTENANCE SERVICE CHARGE (MSC)

Meter Size	Amount	Meter Size	Amount
	(pesos per conn)		(pesos per conn)
1/2" or 13 mm	1.50	2" or 50 mm	6.00
3/4" or 20 mm	2.00	3" or 75 mm	10.00
1" or 25 mm	3.00	4" or 100 mm	20.00
1 1/4" or 40 mm	4.00	6" or 150 mm	35.00
		8" or 200 mm	50.00

4. VALUE-ADDED TAX (VAT) 10% of the charges 1, 2 and 3

MONTHLY BILL IS THE SUM OF 1, 2, 3, and 4.

Table 11-2: Average Water Tariff

(pesos/m³)

MWSI (West Zone)

Year	(1) Base Tariff	(2) "E" Factor	(3) "C" Factor	(4) Accelerated EPA	(5) FCDA	(1+2+3+4+5) Total 1/	% change
1997	4.96	-	-	-	-	4.96	
1998	4.96	-	-	-	-	4.96	0.0%
1999	4.96	0.31	0.53	-	-	5.80	16.9%
2000	5.80	-	0.33	-	-	6.13	5.7%
2001 (Jan - Oct)	6.13	0.19	0.26	-	-	6.58	7.3%
2001 (Oct to Dec)	6.58	-	-	4.21	-	10.79	64.0%
2002	10.79	0.16	0.44	-	-	11.39	5.6%
2002 (Jan to Mar)	11.39	-	-	-	4.07	15.46	35.7%
2003						15.76	1.9%

**MWCI
(East Zone)**

Year	(1) Base Tariff	(2) "E" Factor	(3) "C" Factor	(4) Accelerated EPA	(5) FCDA	(1+2+3+4+5) Total 1/	% change
1997	2.32	-	-	-	-	2.32	
1998	2.32	-	-	-	-	2.32	0.0%
1999	2.32	0.04	0.25	-	-	2.61	12.5%
2000	2.61	-	0.15	-	-	2.76	5.7%
2001(Jan to Mar)	2.76	0.07	0.12	-	-	2.95	6.9%
2001 (Apr to Dec)	2.95	-	-	0.27	-	3.22	9.2%
2001 (Nov to Dec)	3.22	-	-	1.00	-	4.22	31.1%
2002	4.22	0.08	0.21	-	-	4.51	6.9%
2002 (Jan to Mar)	4.51	-	-	-	2.24	6.75	49.7%
2003						10.06	49.0%

<p>Environmental & Sewerage</p> <p>Environmental 10% of water charge.</p> <p>Sewerage 50% of water charge connected to sewer line.</p>
<p>Notes:</p> <p>"E" factor - Extraordinary price Adjustment</p> <p>"C" factor - Adjustment for Inflation (CPI)</p> <p>Accelerated EPA - Accelerated Extraordinary Price Adjustment</p> <p>FCDA - Foreign Currency Differential Adjustment.</p>
<p>1/ excludes CERA - Currency Exchange Rate Adjustment, fixed at Pl.00/m³.</p>

11.3 Rate Adjustment

The initial water tariffs charged by the two concessionaires, actually lower than the water tariff of MWSS at the time, were a result of competitive bidding. The winning firms offered tariff levels on the basis of their financial, physical, and technical projections for operating the water concessions. However, actual financial, physical and technical conditions during the life of the concession will likely be different from these projections. And the Concession Agreement rightly recognizes this and therefore allows for mechanisms that enable the concessionaires to adjust the tariffs accordingly. These adjustments are to follow inflation, foreign exchange fluctuations and other unforeseen developments (generally called Extra Ordinary Price Adjustments or EPA; see Chapter 11 for details on the CA provisions for rate adjustment).

Since the start of the concessions, several EPAs have been made. As a result, the initial rate of P4.96/cu.m. of MWSI in 1997 shot up to P15.46/cu.m. in 2002, representing a three-fold increase in the water rates for the West Zone concession. The water tariffs for the East Zone were likewise increased substantially, from P2.32/cu.m. in 1997 to P6.75/cu.m. in 2002, also a rise in the water rates by three times (Table 12-1).

Table 11-3: Adjustments in water tariffs of MWSI and MWCI (1997 to March 2002)

<i>Period</i>	<i>MWSI Average Tariff (peso/m³)</i>
1997-1998	4.96
1999	5.80
Jan 1 – Oct 19 2001	6.58
Accelerated EPA – Oct 20 2001	10.79
FCDA (Jan – March) 2002	15.46
<i>Period</i>	<i>MWCI Average Tariff (peso/m³)</i>
1997-1998	2.32
1999	2.61
2000	2.95
Jan – March 2001	2.95
Provisional implementation of final award (April 2001)	3.22
Accelerated EPA – Nov 2001	4.22
FCDA (Jan – March) 2002	6.75

Source: “Metropolitan Waterworks and Sewerage System Regulatory Office Rate Rebasing Exercise”, UPecon Foundation, December 2002 (Final Report)

11.4 Rate Rebasing

In addition to the concessionaire-initiated tariff adjustments, the Concession Agreement also prescribes for a review of the basis for water tariffs every 5 years. It also stipulates rate rebasing at the 10th year of the concession period although it vests the MWSS-RO with the option to carry out rate rebasing at the 5th year if it feels the existing conditions deem it necessary. This option was exercised by the MWSS Board of Trustees and initiated the first rebasing exercise in 2002 for implementation in January 2003.

The intent of such re-assessment of tariffs allows the concessionaires to re-set rates at levels that will enable them to recover during the life of the concession all their operating, capital, maintenance and investment expenditures and at the same time earn a reasonable rate of return on what they have spent. It recognizes that the basis of the original bids by the concessionaires reflect tariffs that allow them some guarantee that the concessionaires will

not suffer financially and are assured of reasonable profit.

The rate rebasing exercise – the process of reviewing all the bases for setting tariff rates – was initiated by a study commissioned by the MWSS in April 2002. The study was carried out by the University of the Philippines Economic Foundation (UPEcon). The UPEcon organized a study team comprised of economics, finance and legal experts. This rebasing study was to determine the Appropriate Discount Rate for historical and future cash flows, and evaluate historical cash flows, compliance with service targets, and business plans of the concessionaires. Based on these assessments, the team was expected to determine the rate adjustments and new tariff rates. It was also tasked to suggest pricing schemes to enhance efficiency and recommend procedures for future rebasing exercises. Finally, the team should provide an assessment of the social and political ramifications of tariff increases⁹.

The general principles to be followed by the study team were that the outcome of the rebasing exercise should be “fair and reasonable to all parties, consistent with the terms of the CA, and defensible in the event of appeals”.¹⁰ And the rebasing exercise was indeed carried out in a very inclusive, participatory and consultative process. The concessionaires provided their respective business plans, allowed to thoroughly review the assessment by the study team, provide counterproposals on various recommendations before the final set of recommendations were submitted to the MWSS-RO.

The methodology followed by the UPEcon team benefited from similar studies particularly those pertaining to the experiences in the United Kingdom. They also refer to the report prepared by the United Kingdom’s National Economic Research Associates (NERA) for the MWSS Board of Trustees. Their framework revolves around the Net Present Values of future revenues and future expenditures. In determining the rate adjustment, the study team follows the following framework¹¹:

Present value of future revenues - Present value of future expenditures + Present value of historical cash flows = Zero

Where:

Present value of future revenues = present value of (*Rebasing adjustment rate X Base Tariff X Billed Water Volume*) from 2003 to 2022 (discounted using the rebasing ADR and expressed in 2003 prices).

The present value of future expenditures = present value of (*operating expenditures + capital expenditures + Other Costs*) from 2003 to 2022 (discounted using the rebasing ADR and expressed in 2003 prices).

The present value of historical cash flows = present value of (*Past Revenues – Past Expenditures*) from 1997 to 2002 (compounded using the commencement ADR and expressed in 2003 prices).

The new tariff resulting from rebasing exercises will be $(1 + \text{rebasing adjustment rate}) \times \text{Base Tariff}$.

The key issues faced in the rebasing exercise, according to the study team accounts, are in determining what are prudent and efficient cash flows (both revenue and expenditure sides)

⁹ UPEcon Foundation, “Metropolitan Waterworks and Sewerage System Regulatory Office Rate Rebasing Exercise” (Final Report), December 2002

¹⁰ Ibid.

¹¹ Ibid., pp 5-6.

and in setting the appropriate discount rate (e.g. what is “appropriate or fair” rate of return for the concessionaires).

The recommendations of the MWSS-RO consultants are summarized in the table below:

Table 11-4: Recommendations of the Rate Rebasing Exercise

	MWCI		MWSI	
	Initial Submission (March 2002)	UPEcon (October 2002)	Initial Submission (May 2002)	UPEcon (October 2002)
1. ADR for historical cash flows	9.3%	8.8%	10.4%	10.4%
2. Disallowance on historical cash flows	P0.00	P0.64 billion	P0.00	P8.45 billion
3. Opening cash position per m ³	P1.83	P1.80	P8.22	P2.97
4. ADR for future cash flows	9.3%	10.4%	15.7%; 14.0%	10.4%
5. Future OPEX (net of tax) per m ³	P6.47	P5.01	P8.24	P6.33
6. Future CAPEX per m ³	P5.76	P3.79	P6.44	P5.43
7. Tariff Implication (weighted average all-in tariff throughout the concession period)	P19.54	P17.00	P34.72	P25.58

Source: “Metropolitan Waterworks and Sewerage System Regulatory Office Rate Rebasing Exercise”, UPEcon Foundation, December 2002 (Final Report)

In December 2002, the MWSS-RO issued notice to the public allowing rate increases for both concessions (e.g. MWSS-RO Resolution No. 02-007 for East Zone)¹². The new rates reflect the rate rebasing as recommended by the UPEcon study.

¹² Philippine Daily Inquirer, 17 December 2002, p B-4

12. Social Dimension of the Water Supply Privatization

12.1 Goal of Development and the Way to Achieve it

During five decades of “development”, its orientation has gradually shifted from improving economy of a “developing” country to improving lives of the disadvantaged. (Many economists still believe that one always follows the other.) United Nations (UN) has released development goals, which major development funding agencies follow. One of the goals is to “ensure environmental sustainability” which includes reducing of number of “people living without sustainable access to safe water” and achieving “significant improvement in lives of at least 100 million slum dwellers”¹.

Funding agencies have become fully aware that even if their goals were purely economic they cannot be achieved without people. For instance, non-commercial as well as commercial institutions support participatory processes, mainly because their good chance for cost recovery .

However, despite large international investments many “developing” countries are not developing as was expected. The successful story from Japan, whose society is unique in many aspects, seems to be difficult to copy and paste to other countries. The made-in-the-West idea of “development” is still deeply concerned about progress in time while space dimension (for example, significance of local social organization) has been neglected (see Harvey, 1990²). In this chapter, the role of Filipino culture for Metro Manila water supply and its privatization process is studied. Findings about the Filipino society as described by local and international sociologist and anthropologists are placed in relation with data describing Manila water supply scheme.

12.2 Importance of the Local Cultural Setting

To change a country requires, at the first place, to change the people that live in it. Development of a country means development of a society. Problems occur when developed society is understood to be only the Western-like or Japanese-like society. Each society is unique and applying standards from one place to a different one may result in a conflict or a “clash of civilisations” (see for example Mahbubani, 2001³). “Developers” cannot recast a nation according to their ideas. Some people’s habits may be easy to change but not their values that are essential for guiding their behavior and way of thinking. Therefore, when funding agencies intend to support a project abroad, they should pay special attention to the local cultural conditions. Then, they can try to get the best possible of the local people without unnecessary conflicts with their religions, values, beliefs, or customs. The “developers” should remember that the local values cannot be wrong—they can only be inappropriate for certain (economic) practices. In its “Handbook on Social Dimensions for ODA loans”⁴, JBIC recognizes the importance of the local social and cultural differences. Yet, some factors, which have a considerable influence on Metro Manila water scheme, are not mentioned there. For example, social acceptance of unlawful behavior or importance of familiar relationship for Filipinos is discussed in this chapter. Furthermore, it should be remembered that societies are not composed only from customers, thus projects’ social dimension should not be limited just to them. Internal social organization of the private water providers has significantly affected

¹ United Nations homepage - <http://www.un.org/millenniumgoals/index.html>

² David Harvey, “Between Space and Time: Reflections on the Geographical Imagination”, Annals of the Association of American Geographers, 1990

³ Kishore Mahbubani, “Can Asians Think?” Toronto: Key Porter Books, 2001

⁴ Handbook on Social Dimensions for ODA Loans, JBIC homepage:
<http://www.jbic.go.jp/english/oec/viron/hand/index.php>

their performance.

12.3 Social Organization of the Water Providers

Water company rank-and-file employees, managers, and governmental officials, too, compose the social dimension of water projects. However, top management and governmental officers, who deal with international lenders, may behave differently than “normal” Filipinos. To achieve their position on the international scene, they had to adapt (at least externally) the international (Anglo-American) business culture.

In case of Manila, MWSS service area was split into two parts and given to two companies owned by two influential Filipino families, each with its own history and culture, each of them following its traditional family ethics. Both of the families have always been deeply engaged in a large variety of activities (except water supplying). For example, each of them has got own family museum. It’s not possible to clearly distinguish where is the border between the business and a social service^{5,6}. Local bidders had to be accompanied by international partners whose role is described in the Chapter 8.

Basic assumption underlying the whole privatization process was that a private company should operate more effectively than a governmental institution. Tariffs were supposed to drop, service to improve, and governmental burden should have been relieved even though new expenses (for example, creating the Regulatory Office or splitting the scheme in the two parts) were about to emerge. How could private operators achieve all this? The most essential way how to increase productivity of a company is by an improved management.

After privatization, MWCI, according to its management and rank and file informants, restructured company organization and redistributed originally centralized responsibility, *pagbahala*, to the lowest possible. Ayala employees consider this to be typical for Ayala family culture. Service area has been split and local managers accepted responsibility for small, newly created demand districts and their budget. That is an example of a positive use of the Filipino concept *bahala na*. *Bahala na* is a Filipino saying, describing local way of thinking and doing things, but its translation is ambiguous. Some scholars and managers (often from abroad) think that *bahala na* causes Filipino “fatalism, resignation, avoidance of responsibility, reliance on fate, and leaving things to chance⁷.” Positively used *bahala na*, however, results in “the inner strength to dare, to take a risk, to accept a challenge, to initiate and move, to assume responsibility for an act”. That can be a way for Filipino empowerment - “to give authority or to hand over to people the power to decide for themselves, to act according to their assessment and understanding of their problems⁷.” Well-motivated and empowered MWCI workers have contributed a great deal to company’s efficiency—OPEX cost of one cubic meter of water produced by MWCI is now 5.12 Pesos.

On the other hand, MWSI has kept more hierarchical structure of the company management and its operating efficiency, compared to MWSS, has been low—12.82 Pesos per cubic meter. This operator received high losses during its service period and in December 2002 announced decision of giving up its concession.

According to this concessionaire, reasons for its losses were external – outside of company’s reach. First reason was inadequate information provided by MWSS during speedy privatization. They were bidding in spite of that because, as one manager from this company

⁵ Lopez Memorial Museum homepage - http://www.lopezmuseum.org.ph/elf_museum.html

⁶ Ayala Museum homepage - <http://www.ayalamuseum.com>

⁷ F. Landa Jocano, “Filipino Value System – A Cultural Definition,” Quezon City: Punlad Research House, 2002

explained to us, they believed in good relation with government. Thus, with mutual understanding, they believed to solve all the problems later. It sounds strange to a stranger that some company can bid for a project of such scale without adequate information about it. In Philippines, however, this informal and personal approach is still very common. When concessionaires experienced first problems during the Asian Crisis and after that, government was understanding and agreed to add “Amendment Number One” and “Extraordinary Price Adjustment” to concession agreement. The Regulatory Office could leave the concessionaires bankrupt because the tariffs proposed in their aggressive bids did not consider potential risks appropriately. Instead of that, they were discussing things over until a consensus arrived (*pakiusap*), which is a traditional Filipino way how to deal with problems⁸. However, these “Filipino ways of settling disputes *pagsasanguni* (consultation), *paghihikayat* (persuasion), and *pagkakasundo* (consensus)”⁹ eventually failed and gave way to the official arbitration process.

12.4 Social Roots of NRW

Major part of operators’ revenues comes from water fees. More customers with higher consumption and tariffs (which are limited by the Regulatory Office) result in higher profits. Therefore, the concessionaires are motivated to increase the number of customers and to provide the service comfortable enough to increase household consumption. Coverage targets are not specified for different type of connections, but are better achievable in congested residential quarters, rather than in industrial or commercial areas, which guarantee higher consumption with a higher tariff. Limited water resources are not a major constraint for the private companies because provision of raw water (for free) has remained, as they claim, the responsibility of MWSS. The major problem in Manila has always been the non-revenue water (NRW). There are two types of NRW: water lost in physical leakages and water stolen by illegal connections or tampering of water meters. These two types go often together—illegal connection causes physical leakages. Exact ratio of illegal to physical NRW cannot be exactly determined but for many parts of Manila, the illegal part is estimated to be the larger one. The concessionaires management is well motivated to search for water pilferage—uncovering of these brings direct revenues. On the other hand, they have little to gain from costly leaks detection and repairs, as long as the raw water is free. Therefore, NRW reduction targets had to be recently added to requirements in concession agreement. Why is the percentage of NRW in Metro Manila one of the highest in Asia? In present, NRW is 48.3% of MWCI and 66.3% of MWSI water production; 57.3% combined for the whole scheme. That is well above the Asia’s weighted average 35% calculated by Asian Development Bank¹⁰. The MWSI case is almost reaching the Asia’s worst example Rarotonga with 70% of NRW (compare to Singapore’s 6%)¹¹.

The physical part of NRW is high because the Manila water network is old and its documentation inadequate, but why is the illegal part so high? First of all, it should be noted that the water pilferage in Philippines does not occur only in the blighted communities. The most of water is probably stolen by large commercial and industrial consumers. Both MWCI and MWSI know about huge water thieves but do not automatically disconnect them. First they try to solve the problem with them on a personal level.

⁸ Franklin Drilon, “The Employer’s View,” Proceedings of National Tripartite Seminar Workshop on Industrial Relations, 1984

⁹ F. Landa Jocano, “Towards Developing a Filipino Corporate Culture – Uses of Filipino Traditional Structures and Values in Modern Management,” Quezon City: Punlad Research House, 1999

¹⁰ Asian Development Bank, “Second Water Utilities Data Book”, 1997, Metro Manila, Philippines

¹¹ Asian development Bank homepage, 1995 data,
<http://www.adb.org/Documents/News/1997/nr1997111.asp>

The most of illegal connections (with lower consumption indeed) can be found in squatter areas. It is well known and supported by data provided by National Statistical Office, that most of Metro Manila slum tenants are migrants from poor rural villages in Bicol and Eastern Visayas. It should be noted that in these areas households could often obtain free water directly from nature, so they may be reluctant to start paying for water after moving to the capital. That, however, is not the main problem. Before privatization, MWSS could not provide connections to households who did not own the land they lived on. Thus, for squatters an illegal connection was the best affordable alternative how to get some water to drink (Chapter 8). It is said that in the so-called “*alaga system*”, corrupted MWSS employees used to install these connections.¹² After the privatization, the concessionaires have absorbed most of these MWSS employees. Therefore, it should not be surprising that NRW reduction is such a problem. The employees would report the illegal connections they knew about only if they were well motivated to do so. NRW of MWSI after a dip during dry El Nino years has rapidly risen to still actual 67% (more than double of the amount estimated in their bidding proposal). It is not surprising that a company that loses two thirds of its treated water has got financial problems. Corrupted system, however, cannot be blamed for all illegal NRW. Learning about Philippine culture helps to understand why Filipinos fail to report illegal connections they know about and how could the water pilferage become a socially acceptable practice. In countries with less developed legal system, social “right” and “wrong” can be expected to play more important role in guiding individual’s behavior than “legal” and “illegal”.

At the first place for most of the Filipinos is their family; community they live in would be the second. Of course, stealing is not appreciated in any culture but a Filipino would be socially worse off if he¹³ could not take care of his family. Slum dwellers’ skills in obtaining this live essential matter even when they have no money at all only shows their great capacity to cope with difficult live conditions¹⁴. There is no reported case of someone (even from the poorest community) dying because of thirst. Thus, illegal connections are an effective social solution. After all, the citizens do not steal water from “their community” but from “the rich companies”. People living in the slums sharply distinguish between “their community” and “outsiders”¹⁵. Almost no Filipino would steal water from his neighbor. Lynch writes in his “Social acceptance reconsidered” about Filipinos that the in-group solidarity is extremely important for them¹⁵. In its special pro-poor programs, MWCI lets usually five households share one water meter . According to company employees, no disputes among them were reported. People’s distrust to government and, subsequently, higher reliance on family and close community members can be expected in countries distorted by colonial and totalitarian history – typical developing countries. Filipinos’ alienation from their official representation can be judged from public opinion polls. Before privatization, the net satisfaction with president Ramos was –3;¹⁶ the latest net satisfaction rating of current president Arroyo, negatively affected by her approach towards the conflict in Iraq, is –14.¹⁷

The concessionaires’ pro-poor programs, however, show that high NRW water in Filipino

¹² Luz Rimban, “The Water Thieves”, 2002, TAG homepage,

www.tag.org.ph/investigativereports/recent1/default.html

In 1996 SWS survey, 39% of respondents believed there was “much” and 28% believed there was “little” corruption within MWSS

¹³ “He” is not used here in a sexist manner. In fact, household heads in Philippines are normally men. Even though women are the main water users, it is men’s responsibility that his family is not thirsty.

¹⁴ F. Landa Jocano, “Slum as a Way of Life: A Study of Coping Behaviour in Urban Environment,” Quezon City, University of Philippine Press, 1975

¹⁵ Frank Lynch, “Social Acceptance Reconsidered: In Four Readings of Filipino Values,” Quezon City, Ateneo de Manila University Press, 1973

¹⁶ Negative value more higher number of dissatisfied than satisfied respondents

¹⁷ Social Weather Station surveys

water supply can be avoided. It should be noted that the Filipino familiar culture requires personal treatment. In the streets, traffic lights are sometimes not respected but policeman works always well¹⁰. During the pro-poor programs, concessionaires brought not only the water connections to their new customers but sent people with them. Each Friday, MWCI employees take on T-shirts with a red heart and a slogan saying “We care!” and go to depressed communities in their service area. Each community has got its territory manager who knows the place with its inhabitants and they know him. Customers feel that something has been done for them and they, with their strong sense for reciprocity, do something for the operators. In these areas, water losses have dramatically decreased. Programs’ beneficiaries support their water provider and praise them when visitors come. The water provider is not a complete stranger anymore. Their relation has moved one step towards ideal Filipino relationship between seller and buyer (*suki*), which is based on mutual trust¹⁸. Slum dwellers, who had been already several times resettled from places where their houses were demolished, could hardly have the ideal attitude towards their government. Familiar relationship is crucial for good relations among Filipinos and friendship has to be present in good business relations too. In Philippines, as in other Eastern countries, business relations are based on relations between individuals¹². In Manila, the chief regulator is a good friend of some of the concessionaires’ top managers. That would be hardly explainable in the West.

Moreover, MWCI in its “*Tubig para sa Barangay*” program typically brings water only to the edge of a community next to a main road, where it places the community’s bulk meter or shared meters for groups of households. Water distribution is up to community members, who bring the water to their households in plastic hoses. The point is that as long as there are no trunk lines passing through the area, there is no chance for illegal connections. Stealing water from other members of the community is more than unlikely and would not affect MWCI’s revenues anyway. MWSI has been more generous in its “*Bayan Tubig*” program. Families get usually their individual connection with a meter next to their homes. This arrangement is more costly for the company and results in higher NRW. Once some households obtain their connection others can tap this connection before this household’s meter. Thus, they can get free water without hurting anyone from their community. Then, even the head of the household with the legal connection may start to feel that paying for water is not necessary. Then, he too may decide to tap his own connection in front of his own meter. As MWSI management informed us, their “*Bayan Tubig*” program is not financially viable.

¹⁸ Robert J. Mortais, “Social Relations in a Philippine Town”, Northern Illinois University, Center for South Asian Studies, 1981

13 Conclusions and Recommendations

13.1 Conclusions

Based on the comparative analysis and detailed investigations on key issues, the following conclusions are derived.

(1) Findings

a) service-related performance

There is a general improvement in the provision of water and, to some extent, sanitation services in Metro Manila as a result of the privatization. Water is now available to a greater number of residents, with the number of connections increasing by 30% in just a span of 5 years, a feat that would have taken MWSS 30 years to do. On the average, households now enjoy 21 hours of water availability, at a decent pipe pressure and of water quality that is about the nationally-set standard of potability. In fact, more than 80% of all households connected to the MWCI and MWSI systems have access to water 24 hours a day. This kind of service is provided with less number of personnel involved, from about 10 staff members when MWSS was operating the system, to 4 employees after takeover by the concessionaires.

While water services have tremendously improved, sewerage remains a big problem even with private sector operating the system. The agreed targets with the concessionaires are already very low (14% of households connected to the water system, in the case of MWSI and 3% MWCI). However, actual connections are still below these targets. The low accomplishments in the sewerage connections can be attributed to the delayed implementation of the Manila Second Sewerage Project (MSSP). The performance of the concessionaires are even more dismal in sanitation, with accomplishments way below the goal of 33% and 38% of the requirement as committed by MWSI and MWCI, respectively. Wastewater from the system remains a serious concern, as it still does not conform to accepted levels of coli form and other contaminants. There is, however, a substantial increase in the number of septic tanks desludged annually by the concessionaires compared to the track record of MWSS.

Tariff setting has not only been market friendly but also has been less political and more transparent in the post-PPP. The initial gains because of lower tariff allowed consumer acceptance to PPP but over time, consumer acceptance may slowly erode, as tariffs have to be adjusted to cover extraordinary expenditures such as foreign exchange losses.

The privatization of water services in Metro Manila has allowed better access by the urban poor to water. Not only did it bring water services to a larger number of poor communities, the concessionaires provide safe water at a cost that is considerably lower than what it was when they sourced their water from illegal taps, vendors and wells.

b) financial and operational performance

The financial standing of MWSS was dramatically deteriorating from 1992 onwards. At one point, its net income position eroded by more than 50% (1993-1995) and its operating costs escalated tremendously by as much as 66% (1993-1996), indicating highly unsustainable operations by a public utility.

The turnover of the network to the concessionaires seems to have turned around the finances of MWSS. From the concession fees, MWSS could service its debts, cover its operating costs and counterpart funding for its projects. The concessionaires faced sudden and enormous depreciation of the peso and made servicing of foreign-currency denominated loans of MWSS a huge burden. This was particularly the case for MWSI who assumed 90% of MWSS loans.

MWSI at the very beginning already struggled with burgeoning operating losses, even with tariff adjustments that were eventually allowed by MWSS. It has been unable to recover costs from its operating revenues and, with 95% of its revenues going to concession fee payments to MWSS. MWSI nonetheless was putting in a decent amount for its capital expenditures despite its overall cash flow position. But it appears the capital expenditures came from short-term, expensive financing and has likely been feeding into the financing turmoil in the company.

Fortunately, the other concessionaire, MWCI, is posting positive gains in its operations. It was successful in containing its operating costs and exercised prudent capital spending. Posting net incomes starting in 1999 (with a leap of 41% growth in net income for 2000-2001), the company is starting to seriously discussing with government expansion programs in the near term. But even with MWCI performing exceptionally well, it is to be noted that it only concerns itself with 10% of the entire MWSS service area. Its contribution to relieving government of the financial burden associated with running a huge water utility is unfortunately rather small especially in the midst of the dire financial situation facing the other concessionaire.

c) people's perception

People find water supplied safer than they used to have, although they are less satisfied with its taste and smell. Concessionaires have expanded water coverage, but, according to people's answers, daily water availability has not decreased. People say they consume more and pay less for it but they are still not satisfied with the tariffs despite they expected them to rise after privatization and improvement of services. Satisfaction with water services has been gradually rising from original indifference to high levels in 2000.

d) impact on human resources at MWSS

The transfer of MWSS operations to MWSI and MWCI did not result in widespread dislocation of the more than 7,000 employees of the state-run corporation. Because some reorganization was carried out shortly before it was privatized, hundreds of employees were voluntarily but the majority did get absorbed by the two private firms. There is evidence that in the case of MWCI, overall welfare of MWSS employees absorbed by that company improved. Job satisfaction is high and compensation package is relatively better. MWSI took in more than 3,000 former MWSS staff but the number has since dwindled as the company did not upgrade its compensation package for these recruits.

One seeming negative effect of the turnover of MWSS staff to the concessionaires is the drain of needed talent within MWSS. There are about 100 staff members retained that complement the "residual" MWSS and anecdotes abound about remaining staff who are unable to perform effectively because staff who possess "institutional memory" and skills were recruited by the 2 private companies. In some instances, MWSS had to re-hire staff already employed by those companies.

(2) Lessons Learned

The performance of concessionaires and MWSS are greatly affected by the framework of the PPP scheme, such as a concession agreement and a regulatory framework, and social and economic environments, such as an Asian Financial Crisis. Reality often brings about what is beyond the expectation before starting. Lessons learned from MWSS privatization through 5 years experiences are as follows.

a) preparation and bidding process

The road to the MWSS privatization was relatively smooth and fast owing to the great support by IFC though this is the world largest case of privatization of a public utility. It was, however, reported that the privatization process lacked a good communication for confirming the mutual expectation before the contract. The government should have explained that future investment entailed cost. It only emphasized lower tariffs with privatization to get approval of public. But even lower tariffs were only true at the onset.

b) concession agreement

Many of the problems occurred in 5 years are partially related to the PPP arrangement, which is mainly described in the concession agreement.

Tariff rate adjustment. The initial water tariffs charged by the two concessionaires, actually lower than the water tariff of MWSS at the time, were a result of competitive bidding. The winning firms offered tariff levels on the basis of their financial, physical, and technical projections for operating the water concessions. However, actual financial, physical and technical conditions during the life of the concession will likely be different from these projections. And the Concession Agreement rightly recognizes this and therefore allows for mechanisms that enable the concessions to adjust the tariffs accordingly. These adjustments are to follow inflation, foreign exchange fluctuations and other unforeseen developments. For that purpose, Amendment No.1 of the contract was added to recover all cost during the concession's life and forex fluctuations immediately. Rate rebasing every 5 years has also important role for that purpose.

Concession fee. The sharing of concession fee for debt services is 90% and 10% for MWSI and MWCI respectively. The impact of forex fluctuation on each concessionaire is almost proportional to this ratio. MWSI has greatly suffered from the Asian financial crisis. And for some project the ratio of debt sharing is not consistent with the ratio of the benefit from the project. There are 2 kinds of problems; how concession fee for debt services should be allocated to the concessionaires and how the concession fee should be linked with the debt services.

Lack of information on asset conditions. Information of asset conditions has important role for the management strategy in the business of concessionaires. Especially for planning the capex projects, it is crucial to have the correct information on asset conditions. Initial asset conditions were, however, not fully informed to the concessionaires, which affected the plan of rehabilitation projects of pipeline network. It is important to inform the accurate and full information of asset conditions before contracting.

Unclear responsibility of future development of raw water resources. MWSS has the responsibility of on-going projects, which has started before PPP. The concessionaires have the responsibility of maintenance of existing facilities and expansion of new assets. However, the responsibility of raw water development for future demand is vague in the concession

agreement. And on-going projects affected the performance of the concessionaires. On the other hand on-going projects were affected by the splitting of area after PPP. It is important to clarify the responsibility of investment during the concession term, considering on-going projects.

c) regulatory framework

Regulatory framework is important for balancing the interests of public and private. Current position of regulatory office is complicated, because it is organized under the board of MWSS and its operating budget comes from the concessionaire as a part of concession fee. Independency of the regulatory office should be secured for that purpose, which will lead to the strong control to the both sides.

For controlling the performance, it is important to monitor the technical, financial and operational performance of the concessionaires. And it is also important to share the accurate information for avoiding the useless disputes and for better operation.

d) MWSI's notice of termination

MWSI's notice of termination is one of the biggest events beyond the expectation. There are probably many reasons behind this event. 3 main reasons can be raised for explaining this event. Firstly, the Asian financial crisis attacked cash flow of MWSI, which has 90% of debt services of MWSS including foreign payable loan. Secondly, inadequate information provided by MWSS on asset conditions affected the projects of MWSI, which has to maintain relatively old facilities in the area. Lastly, it is because of the company management, which resulted in inefficiency of operation and too optimistic financing strategy.

e) urban poor projects

The urban poor projects by both concessionaires have brought about the great success despite that there is no description in the concession agreement. Prior to PPP there was a general afraid that it is not viable to serve the poor and collection rate in poor areas is low. However, based on the experience, consumption increases in poor areas if service is good and collection rate is relatively high, though middle income segment is more delinquent. For delivering the service to the urban poor, community building and local education on importance of water were key issues before installing the pipeline networks.

(3) Competence of the Operators

Competences of the actors are also important even if the framework is fully prepared beforehand. It is strongly required to extend the capacity building of the actors for better services and better business. Operators have the role to deliver the better service to the customers, utilizing the same facilities and the same human resources as that of MWSS.

MWCI considers itself to be a rather flat structure in terms of hierarchy of decision-making levels. This means there are very few levels of intermediate positions between those who actually do the work and those who make key decisions, which has led the better motivation of employee and the gain of operational efficiency.

(4) Sustainability of Water Supply Service

From the viewpoint of water supply and sanitation service as a public utility, it is important

to deliver a safe, environmentally friendly and continuous service to the whole public. This concept is not changed even after a PPP scheme is introduced. National government as a representative of the public has a great responsibility for sustainability of the whole system.

Since water is essential for everyone's life, water supply privatisation is a sensitive issue. Consumers' attitude towards water, and all water-related activities, depends, firstly, on price, safety, and reliability of water supply. Secondly, it depends on consumers' attitude to their health and environment and their understanding how water, health, and environment are related. Thirdly, it depends on local customs and traditions – introducing of water tariffs is problematic in communities where water is taken as a god given commodity. However, people and their daily lives change, when water connections are laid to their houses and these changes affect the water supply projects. Success and sustainability of the project depends on behavior of the community

The impact of the PPP can be viewed from the perspective of the consumer, the government and the concessionaires.

For the consumers, there is, as a result of the privatization, a general improvement in the provision of water services in Metro Manila at tariff levels that are affordable. Water is now available to a greater number of residents, with the number of connections increasing by 30% in just a span of 5 years, something that MWSS would have taken 30 years to do. More than 80% of all households connected to the system have access to water 24 hours a day. More importantly, the PPP has resulted in the water network that has expanded and reaching more poor households. The special programs by the concessionaires to the poor are considered very successful in terms of bringing safe water at a price that is generally lower than what they pay for water supplied from private vendors. For the government, the PPP has, to some extent, reduced the financial burden on the government. This is largely because that the government is servicing the debt obligations incurred by MWSS from the concession fees. In addition, the operations of the MWSS and the Regulatory Office are now funded by the concession fee payments.

But the expectation that the private sector will bring in more investments into the system seems not achievable. So far, for a five-year period, the capital expenditure programs of the two concessionaires cannot exceed what MWSS has invested for the same number of years before the privatization. It is also now apparent that the government is still expected to bear the responsibility of developing and financing water source projects.

From the point of view of the concessionaires, for the PPP scheme to work, a strong regulatory framework is extremely necessary. Profitability of operations depends on the quality of information available from the government and the availability of favourable financing that government can obtain for them. The impact on the two companies is mixed.

One company is now making some profit, largely because it was able to increase productivity, reducing its operating costs and exercised prudent capital spending. The other company unfortunately could not recover from its operational losses and has served notice to government that it is terminating its contract with MWSS.

13.2 Recommendations

(1) For the future projects on PPP scheme

With the 5 years experience of MWSS privatization, service-related performance was greatly improved, but financial burden of government was not so much relieved. As a result, PPP

scheme cannot solve all the problems which MWSS was suffered prior to PPP. However, it has brought about the impact to the government and to the public, that there is a possibility to deliver the better service due to the private management style.

To sustain water supply services, it is necessary that all the stakeholders are satisfied with the PPP scheme.

- The consumers may enjoy better services but may need to accept the fact that quality service has a corresponding cost.
- The concessionaires must be allowed a reasonable profit from the operations to make it attractive and worthwhile to invest in the network.
- It should substantially reduce reliance on government to spend for a service that is enjoyed by one particular group, that is the households in Metro Manila

Key issues for applying the PPP scheme are described below based on the study of MWSS privatization.

a) PPP arrangement

Is concession agreement the most suitable arrangement for this kind of privatization? Is there merit to now consider moving forward with privatizing even the assets of the system and make the network a completely private sector business concern? Is management contract better for that purpose rather than concession scheme? There are certainly issues for answering these questions that need further and careful analysis.

b) Concession agreement

It is suggested that for securing the adequacy, efficiency, continuity and/or legal stability in the concession agreement, it is necessary to avoid ambiguous expression but to use explicit and plain expressions in the agreement, which would be inevitably based on concrete dealings through the contract between the public sector and the concessionaire.

For the PPP arrangement to be lasting and successful, it is very important that the legal agreement is crystal clear in terms of the allocation of responsibilities, the targets that need to be attained, the penalties that are to be imposed if these are not achieved, and even perhaps, some incentives for good performance. In the case of MWSS, the issue of who is supposed to invest for future water supply needs has to be resolved. It looks not very clear how the investment programming is to be done within the PPP scheme.

The allocation of concession fee is also an important issue that greatly affects the financial performance of the concessionaires. In the case of MWSS, it is related to the allocation of debt services of MWSS loan which was located in each concession area. There are another alternatives for allocating the fee, such as off-take, production volume, billed volume or target volume of water, which can resolve the problems of foreign currency fluctuation in debt services.

c) Tariff structure and adjustment mechanism

It should be fully noted that items to be regulated are price, quality of service and assurance of continuity. However, other two elements and price are in correlation. Therefore, price regulations are most important among others, which is left to regulators' discretion of which decision making is to be made in accordance with the stipulations of the concession contract. Prices should be decided so that reasonable costs

under competent management plus a reasonable return on operations are equal to gross income, however it was not functioned at implementation stages because of problems of the regulator side concerning grasping the accurate and adequate cost and reasonable rate of return for long-term capital investment with a mind of continuity.

d) Regulatory framework and monitoring the performance

In the case of MWSS, the regulatory framework certainly needs to be reviewed and improved. In fact, there seems to be a consensus among the key stakeholders that the regulatory body must be truly independent and has the capability to respond to changing situations facing the private sector interests involved in the PPP scheme.

It is important to monitor the performance of the concessionaires for controlling the PPP scheme. Key Performance Indicators and Business Efficiency Measures were proposed in the Rate Rebasing Project together with the reporting requirements. Performance indicators proposed by Japanese Group to ISO/TC 224, where quality standard and business indicators for water and sanitation services are discussed, are also useful. It consists of 10 categories, such as raw water, employee, physical indicators of facilities, operational indicators, service-related performance, financial performance, managerial index for operation, impact to the environment, stability of water supply system and risk management.

Transparency in all transactions is very essential. Communicating to the public at large about key decisions is also very important. For instance, how the tariff rates are determined must be clearly communicated to the consumers. The consumers also need to be continuously informed about how the PPP scheme works, what their responsibilities are if they would like to continue to enjoy the benefits of efficient water service delivery. They should also be informed about the need to regard water as a very scarce commodity. (Figure 13-1)

A monitoring of customer satisfaction needs to be carried out in a regular fashion and preferably by an independent and qualified party. The regulatory body that is outside the contract may be best suited to do this particular function.

e) Selection of operators

Under the concession scheme there is, in principle, only one big chance for competition; that is a time of bid for selection of a concessionaire. After signing of the concession contract, only comparisons for awarding incentives are possible, but it is not real competitions. Therefore, the competition by dividing regions into several zones is not a competition but a comparison. Second, since there is a finite number of operators who have capabilities and experiences to operate and manage the massive projects the natural consequence is that there is no potential competition. It might be said that bidding for the selection of a concessionaire at the initial stage is competitive basis although said bidding is to be made among finite operators. Thereafter, the concessionaire selected by said bidding is regulated by the regulator but not by competitions. Only a next chance for competition is after the expiration date of the concession contract, when another bidding would be made again for selection of a concessionaire. The role of international operators is also an issues for inviting the competent operators.

f) Human resources and capacity building

The role of the original staff of MWSS in the success of the concessions needs to be highlighted. In one instance, the former employees of the MWSS assumed important responsibilities in the operations of the concession. In this case, there appears to be high

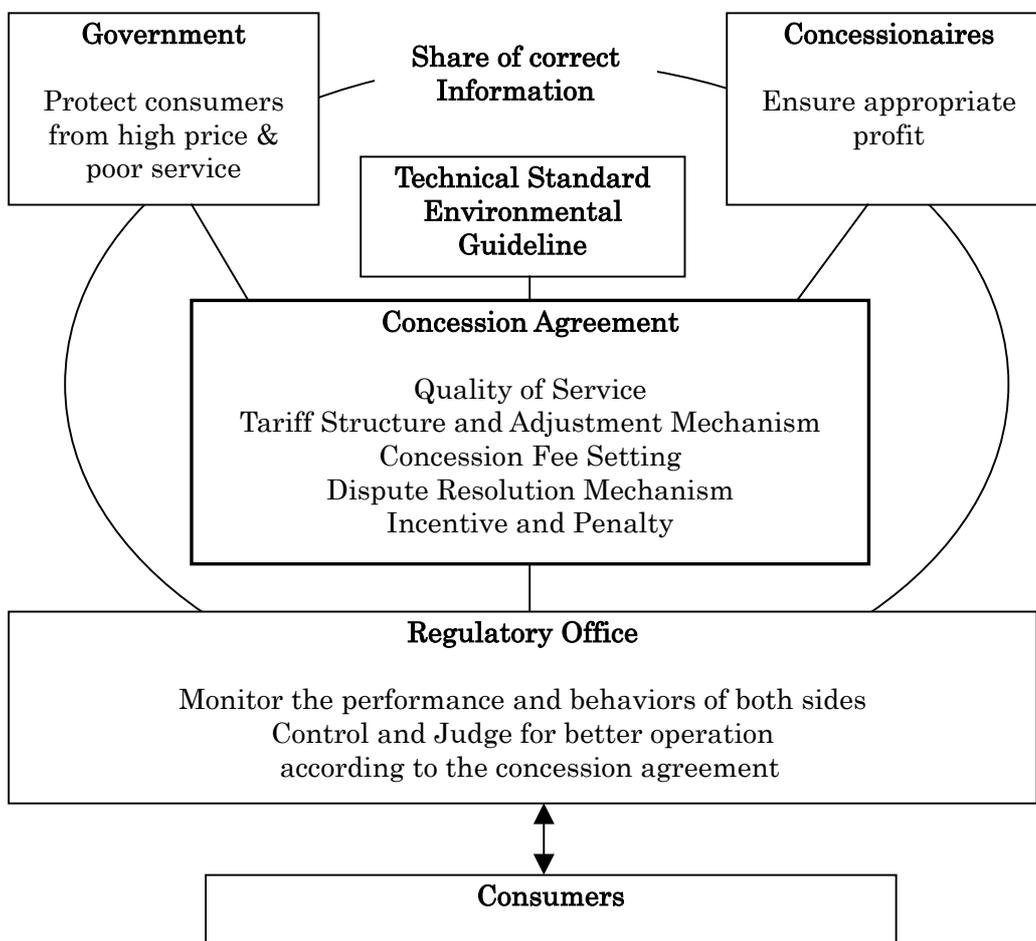
productivity and efficient operations. In the other instance, the ex-MWSS employees were gradually replaced with new recruits. In this case, the operations seemed to have suffered.

Management of concessionaires affects the performance of water supply services. Capacity building of concessionaires should be taken into account when selecting the PPP scheme and building up regulatory framework.

g) Consideration to the urban poor

The reaching of a water supply to the urban poor is important with viewpoints of public welfare and reduction of NRW. Community-based activity including public education is effective for building up the new network to the urban poor.

Figure 13-1 Regulatory Framework



(2) For the donors agencies

For the donors agencies which lent loans for the on-going projects, how the projects and debt servicing are affected by the PPP scheme is one of major concerns. In the case of MWSS, the design of some of on-going projects was altered due to the splitting of the service area. Careful preparations are required to introduce the PPP scheme and on-going projects also

affected the performance of the concessionaires. It is, therefore, important to share the information on concession arrangement and on-going projects within the stakeholders before and during the concession term. The Debt service was secured by MWSS through the bridge financing even when MWSI postponed the concession fee.

Some donors agencies supported the concessionaire after PPP without guarantee of the government. There may be arguments to support the private firms despite the public utilities. Donors agencies can have the significant role for water resources development with the guarantee of national government and for the technical assistance of capacity building and delivered services.

(3) Further studies and others

The scope of the study and time span for the review is limited. The following further studies are, therefore, needed to reach the final goals that general framework of PPP scheme for a water supply service is proposed.

- a) Periodical and continuous assessment through the concession period
- b) Comparative analysis with the cases of other countries
- c) Socio-economic analysis and social background including corporate culture
- d) General framework of PPP scheme considering local characteristics

This research is carried out after five years has passed since the start of PPP in Metro Manila water supply and sewerage services. In order to judge whether this PPP was a success, there are also many matters which cannot be judged not to be after concession period of 25 years. It is necessary to watch the trend about the future of services in the west zone where concession was abandoned. In order to draw conclusions of this case, considering such as water resource development for satisfying the future demand and continuing a rise of the water tariff expected, it seems that time and continuation of evaluation is still required. Moreover, in order to propose the general framework for evaluating the PPP scheme for a water supply service, after making a comparative analysis to the cases not only in the track record in this enterprise but the other country, it is necessary to extract the general matters which covers these. There is also a limit in each case at historical and social background linking, and generalizing and arguing about the framework of PPP itself of the region. Also in the basis of the same PPP framework, if the characteristic and the social background of a player which achieve a role on it, it is easily expected that different performances will be brought about. It is important to deepen further analysis of social impact of water services, an operator's corporate culture, and the capacity of regulations also in the case of Manila. The generalization after understanding the characteristic of each region is important.

The scheme of PPP is also various and the case of Manila is only one case in it. It is needed to continue the further research so that the suitable PPP scheme can be chosen considering the characteristic of a region and its purpose.

Contents

APPENDIX-1	App. – 1
Review of Public Private Partnerships (PPP)	App. – 2
1 Overview of PPP	App. – 2
(1) PPP in Developing Countries in the World	App. – 2
(2) PPP in Developing Countries in East Asia and Pacific	App. – 5
(3) PPP in Europe	App. – 14
(4) Private Finance Initiative (PFI) in UK	App. – 18
(5) PFI in Japan	App. – 19
2 Diversity of PPP Models and PFI	App. – 21
(1) Diversity of PPP Models	App. – 21
(2) PFI Scheme in UK	App. – 35
(3) PFI Scheme in Japan	App. – 35
3 Concession Scheme & Regulatory Framework	App. – 41
(1) Concession Scheme	App. – 41
(2) Regulatory Framework	App. – 42
APPENDIX-2	App. – 49
Technical Details of Public Opinion Surveys	App. – 50
(1) Surveys	App. – 50
(2) Respondent and Quota	App. – 50
(3) Sampling Method	App. – 50
(4) Research Methodology	App. – 50
APPENDIX-3	App. – 53
Notes of Site visit	App. – 54
(1) Manggaham East Floodway -- under MWCI	App. – 54
(2) Planters -- under MWCI	App. – 54
(3) Payatas, Commonwealth -- under MWSI	App. – 55

APPENDIX-4	App. —56
Financial statement of MWSS, MWCI and MWSI	App. —57
(1) MWCI	App. —57
Balance Sheet	App. —57
Income Statement	App. —58
Percentage Distribution of OPEX	App. —59
Percentage Distribution of OPEX (Summary)	App. —60
(2) MWSI	App. —61
Balance Sheet	App. —61
Schedule of Revenues and Operating Costs and Expenses	App. —62
Percentage Distribution of OPEX	App. —63
Percentage Distribution of OPEX (Summary)	App. —64
(3) MWSS	App. —65
Income Statement	App. —65
Loans and Subsidy	App. —66
Adjusted Net Income	App. —67
APPENDIX-5	App. —68
List of Reference Materials	App. —69

Appendix-1

Review of Public Private Partnerships (PPP)

1 Overview of PPP

Public Private Partnerships ("PPP") is a generic term which describes the relationships formed between the public and private sectors. The purpose of such relationships is usually the introduction of private sector resources and/or expertise to help with the delivery of public services and provision of infrastructure. In a PPP the private sector contractors become long term providers of services or operators of infrastructure rather than simply upfront asset builders. As a result, a PPP combines the responsibilities of designing, building, operating and possibly financing assets by the private sector partner in order to deliver the services required by the public sector.

Governments throughout the world are increasingly turning to the private sector to deliver new and improved infrastructure and public sector services. This represents a shift from the more traditional model of the public sector providing the essential infrastructure and services.

In developed countries it is generally accepted that the pressure of competition means that better and more efficient public services can be provided with the involvement of the private sector. There is also a growing recognition that PPP themselves can be used as models for more efficient procurement. In developing countries there is a continuing and growing demand for both new and improved infrastructure and higher standards in the provision of services. This continual demand on scarce public resources has led governments to look at how infrastructure can be developed and services provided in partnership with the private sector. Private Sector Participation ("PSP") in a properly structured PPP project should, especially when considering the entire 'life' of the project, improve the technical skills available to the project, introduce and encourage competition, enhance innovation, reduce potential costs, increase efficiency and result in a better product being delivered to the public. In emerging markets there is the added and important incentive that PSP will provide a large source of capital for public list projects which otherwise could not be developed in the same time frame.

As well as securing financial benefits for the public sector these models introduce new management structures, working practices and techniques from the private sector and help to promote best practices. This knowledge transfer can be a major goal for a government in choosing to pursue a PPP structure.

(1) PPP in Developing Countries in the World¹

132 developing countries introduced private participation in infrastructure sectors between 1990 and 2001. During that period, the private sector took over the operating or construction risk, or both, for almost 2,500 infrastructure projects in those countries, which introduced investment commitments of more than US\$750 billion. Those projects have implemented schemes ranging from management contracts to divestitures.

¹ The World Bank Private Sector and Infrastructure Network, Public Policy for The Private Sector Note Number 250, Private Infrastructure – A review of projects with private participation 1990-2001

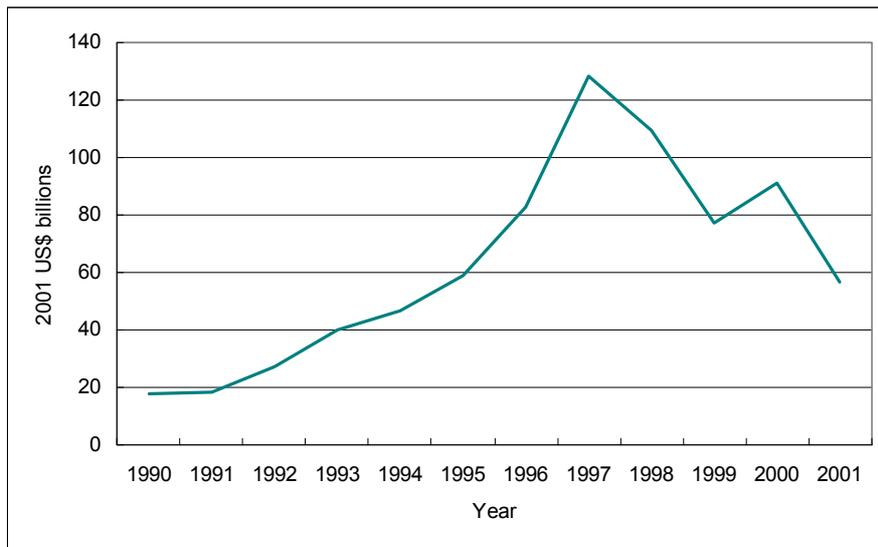


Figure 1-1 Investments in Infrastructure with PPP in Developing Countries 1990-2001

Between 1990 and 1997, investment flows to infrastructure projects with private participation grew strongly to a record US\$128 billion in 1997. But they fell to US\$77 billion in 1999 and to US\$57 billion although they recovered to US\$90 billion in 2000.

a PPP by Sector

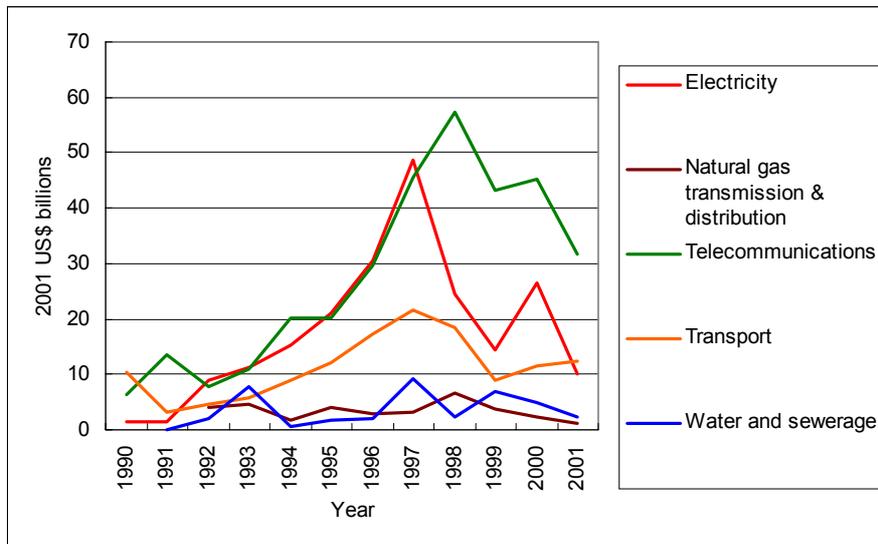


Figure 1-2 Investments in Infrastructure Projects with PPP in Developing Countries by Sector 1990-2001

a-1 Electricity

Electricity and telecommunications saw the biggest declines in investment flows in 2001. Investment flows to electricity projects with private participation between 2000 and 2001, fell from US\$26 billion to US\$10 billion, the lowest level since 1992. Sub-Saharan Africa and the Middle East and North Africa remained at 2000 levels.

a-2 Telecommunications

Investment flows in telecommunications dropped from US\$45 billion to US\$32 billion, the lowest level since 1996, declining in all regions except South Asia.

a-3 Transportation

Only transport saw growth, with investment flows rising from US\$11.6 billion in 2000 to US\$12.4 billion in 2001.

a-4 Water

Water and sewerage and natural gas transmission and distribution also had lower investment flows.

b PPP by Region

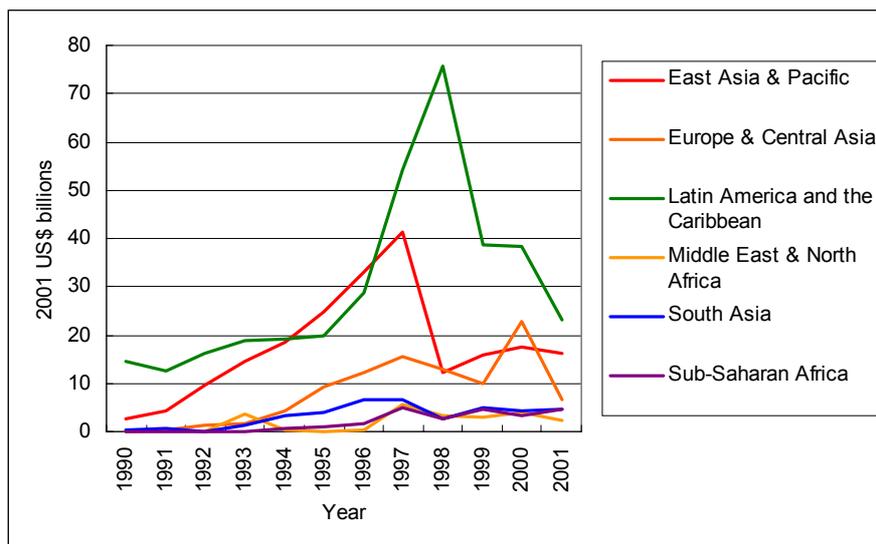


Figure 1-3 Investments in Infrastructure Projects with PPP in Developing Countries by Region 1990-2001

b-1 Trends in Europe and Central Asia and in Latin America and the Caribbean

Trends in Europe and Central Asia explained much of the decline in 2001. After peaking at US\$23 billion in 2000, investment flows to the region dropped to US\$7 billion in 2001, the lowest activity since 1994. Investment in the region in 2000 had been driven mainly by growth in mobile telecommunications, the privatization of telecommunications in Poland, and the construction of power plants in Turkey.

b-2 Latin America and the Caribbean

Trends in Latin America and the Caribbean were also declined much in 2001. Investment in the region flows fell from US\$38 billion in 2000 to US\$23 billion in 2001, the lowest since 1995. Much of the decline occurred in the electricity sector, where investment flows dropped from US\$13 billion to less than US\$4 billion.

b-3 East Asia and Pacific

Investment flows in East Asia and Pacific fell only slightly between 2000 and 2001, from US\$17.5 billion to US\$16.1 billion, thanks to growth in transport. Investment flows to that sector rose from US\$5.4 billion to US\$7.5 billion, partially offsetting the decline in telecommunications and electricity.

b-4 Middle East and North Africa

In the Middle East and North Africa investment flows dropped from US\$4.1 billion in 2000 to US\$2.4 billion in 2001.

b-5 South Asia

Investment flows in South Asia stagnated, remaining around US\$4 billion for the third

consecutive year. Private activity in this region was driven mainly by the telecommunications sector.

b-6 Sub-Saharan Africa

Sub-Saharan Africa was the only region where private activity grew. Investment flows rose from US\$3.4 billion in 2000 to US\$4.6 billion in 2001, nearly reaching the all-time high of US\$4.8 billion in 1997.

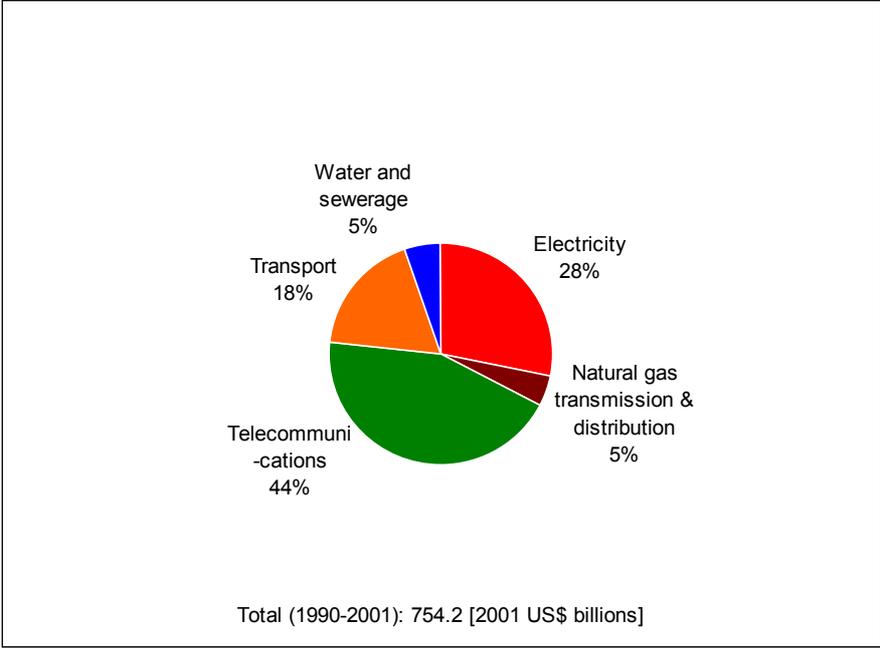


Figure 1-4 Investments in Infrastructure Projects with PPP in Developing Countries by Sector (Cumulative 1990-2001)

Leading the growth in private activity in developing countries, telecommunications and electricity accounted for 72 percent of the cumulative investment in infrastructure projects with private participation in 1990–2001. Water and sewerage accounted for 5%.

(2) PPP in Developing Countries in East Asia and Pacific

a PPP by Sector

a-1 By Year²

Table 1-1 Number of PPP Projects in Developing Countries in East Asia and Pacific by Sector 1997-2001

Sector	1997	1998	1999	2000	2001	Total
Energy	57	16	23	27	28	151
Telecommunication	41	26	26	18	14	125
Transportation	49	23	17	16	14	119
Water	13	7	9	7	4	40
Total	160	72	75	68	60	435

² Id.

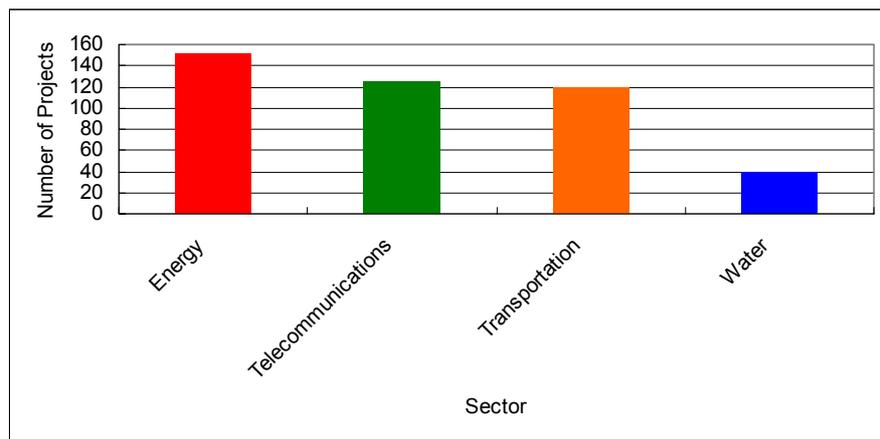


Figure 1-5 Number of PPP Projects in Developing Countries in East Asia and Pacific by Sector (Cumulative 1997-2001)

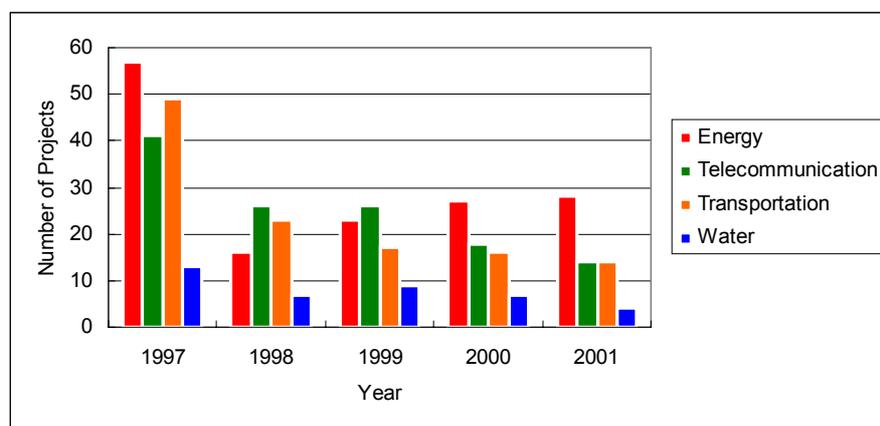


Figure 1-6 Number of PPP Projects in Developing Countries in East Asia and Pacific by Sector 1997-2001

a-2 By Major Type of PPP Model

a-2-1 Energy³

Table 1-2 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Energy) 1997-2001

PPP Model	1997	1998	1999	2000	2001	Total
M&O with Major Private Capital Expenditure (Concessions)						
BROT	2				1	3
Greenfield						
BOT	24	4	3	6	10	47
BOO	19	4	9	7	11	50
Merchant		1				1
Divestiture						
Partial	11	6	10	12	5	44
Full	1	1	1	2	1	6

³ Id.

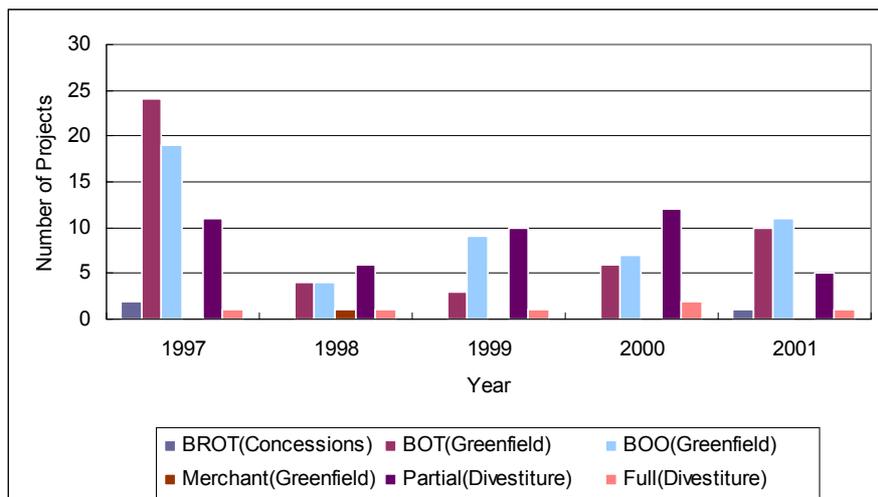


Figure 1-7 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Energy) 1997-2001

a-2-2 Telecommunications⁴

Table 1-3 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Telecommunications) 1997-2001

PPP Model		1997	1998	1999	2000	2001	Total	
M&O with Major Private Capital Expenditure (Concessions)	BROT	5	4	4	4	2	19	
	Greenfield	BOT	7	4	4	3	3	21
		BOO	27	16	13	9	7	72
Divestiture	Partial	2	2	5	2	2	13	

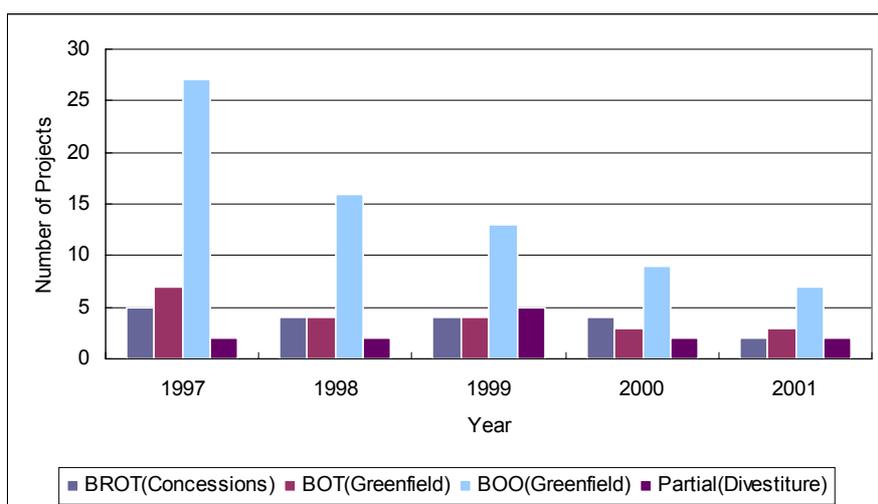


Figure 1-8 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Telecommunications) 1997-2001

⁴ Id.

a-2-3 Transportation⁵

Table 1-4 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Transportation) 1997-2001

PPP Model		1997	1998	1999	2000	2001	Total
Management & Operation Contracts (M&O Contracts)	Management Contract	1			1		2
	Lease-Operate Contract	2					2
M&O with Major Private Capital Expenditure (Concessions)	BTO					3	3
	BLT		1	1		1	3
	ROT	24	5	1	2	1	33
Greenfield	BROT	5	5	3	1	1	15
	BOT	10	7	3	6	4	30
	BOO	1		1	1	1	4
Divestiture	Merchant			1			1
	Partial	6	5	7	5	3	26

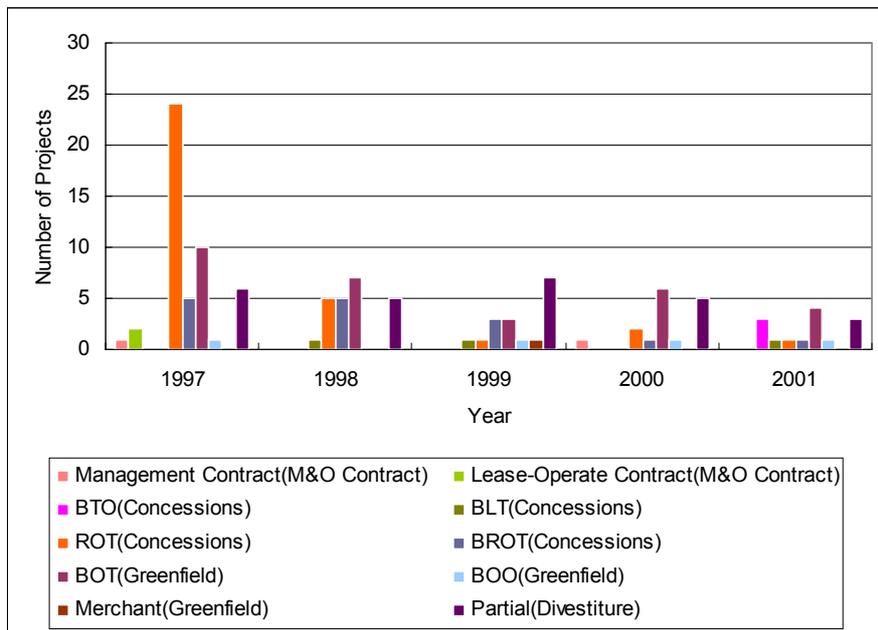


Figure 1-9 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Transportation) 1997-2001

a-2-4 Water⁶

Table 1-5 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Water) 1997-2001

PPP Model		1997	1998	1999	2000	2001	Total
Management & Operation Contracts (M&O Contracts)	Management Contract				1	1	2
	Lease-Operate Contract			1			1
M&O with Major Private Capital Expenditure (Concessions)	ROT	2	4	2	1	1	10
	BROT	3	2	1	1		7
Greenfield	BOT	7	1	4	3	2	17
	BOO					1	1
Divestiture	Partial	1		1	1		3

⁵ Id.

⁶ Id.

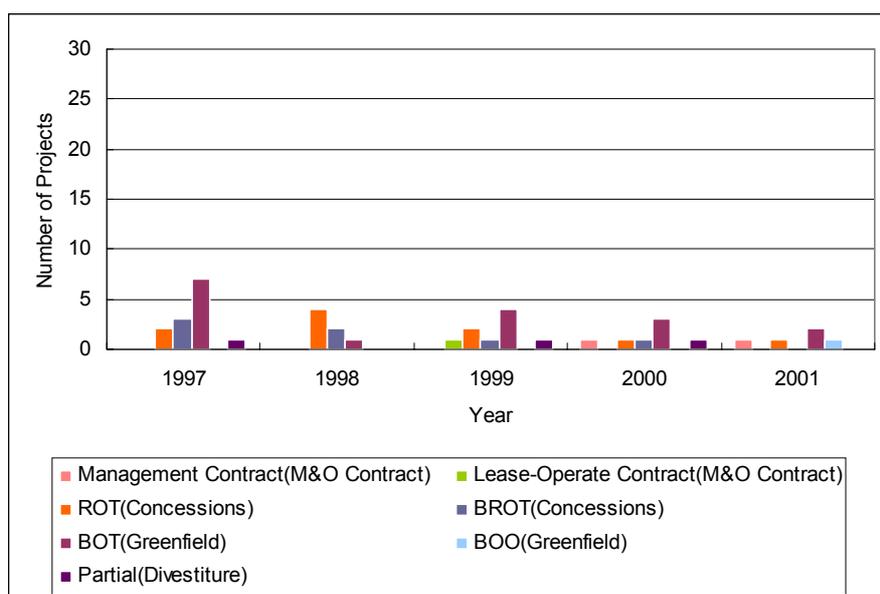


Figure 1-10 Number of PPP Projects in Developing Countries in East Asia and Pacific by PPP Model (Water) 1997-2001

b PPP by Countries

b-1 By Year⁷

Table 1-6 Number of PPP Projects in Developing Countries in East Asia and Pacific by Country 1997-2001

Countries	1997	1998	1999	2000	2001	Total
Cambodia	4	2	3	2	3	14
China	70	34	26	29	24	183
Fiji		1				1
Indonesia	18	6	8	3	3	38
Lao PDA	1	1	1	2	1	6
Malaysia	16	5	9	8	5	43
Mongolia		1	1	1	1	4
Papua New Guinea	1					1
Philippines	19	10	7	6	5	47
Samoa	1					1
Solomon Islands			1			1
South Korea	10	5	8	10	7	40
Thailand	17	6	9	6	10	48
Vietnam	3	1	2	1	1	8

⁷ World Bank, PPI Database

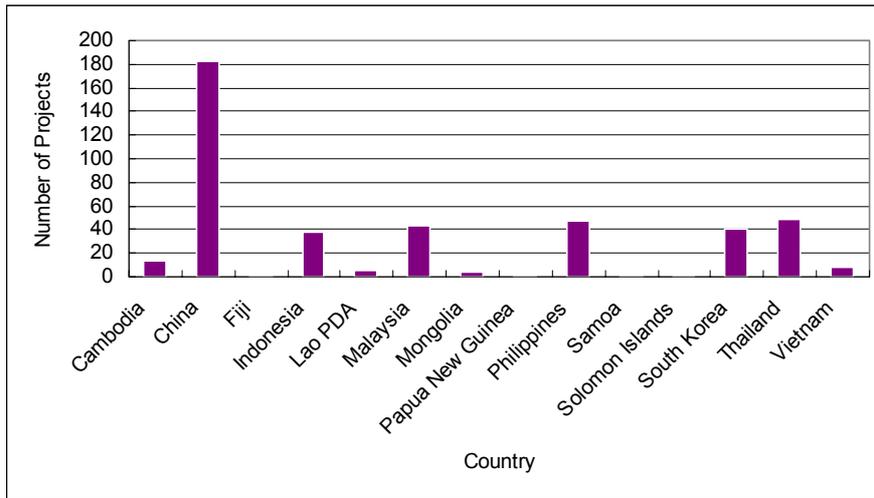


Figure 1-11 Number of PPP Projects in Developing Countries in East Asia and Pacific by Country (Cumulative 1997-2001)

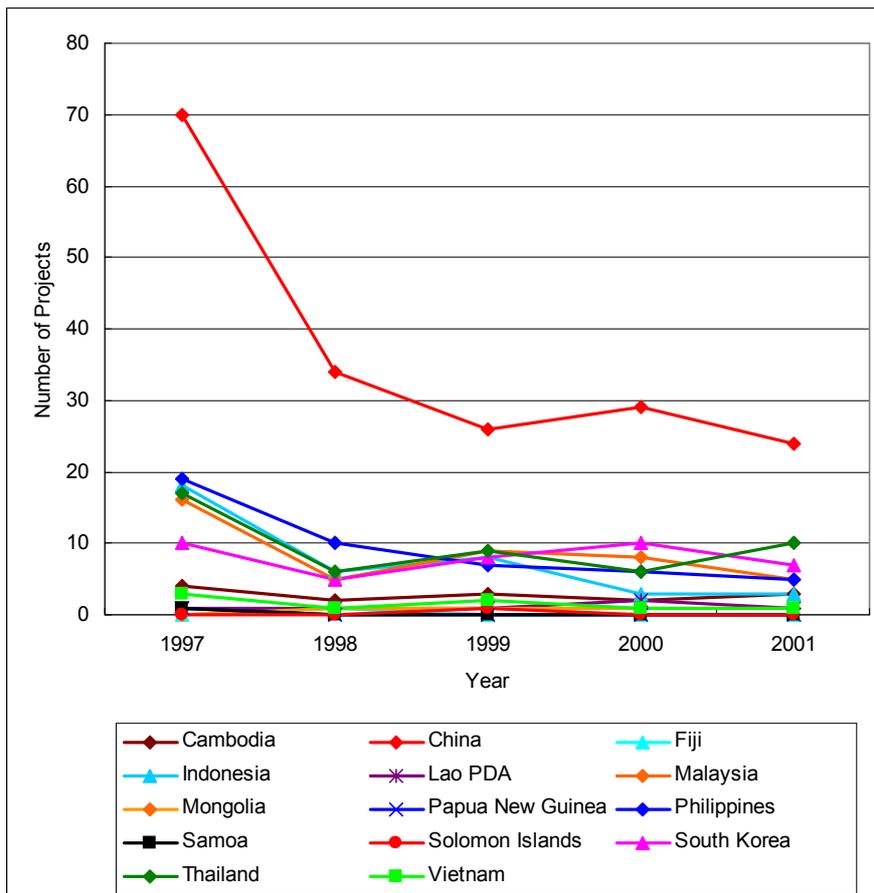


Figure 1-12 Number of PPP Projects in Developing Countries in East Asia and Pacific by Country 1997-2001

b-2 By Sector⁸

Table 1-7 Number of PPP Projects in Developing Countries in East Asia and Pacific by Country by Sector (Cumulative 1997-2001)

Countries	Energy	Telecommunications	Transportation	Water	Total
Cambodia	5	8	1		14
China	85	2	80	16	183
Fiji		1			1
Indonesia	7	22	3	6	38
Lao PDA		5	1		6
Malaysia	8	15	16	4	43
Mongolia		4			4
Papua New Guinea				1	1
Philippines	14	23	5	5	47
Samoa		1			1
Solomon Islands		1			1
South Korea	7	25	8		40
Thailand	22	18	3	5	48
Vietnam	3		2	3	8

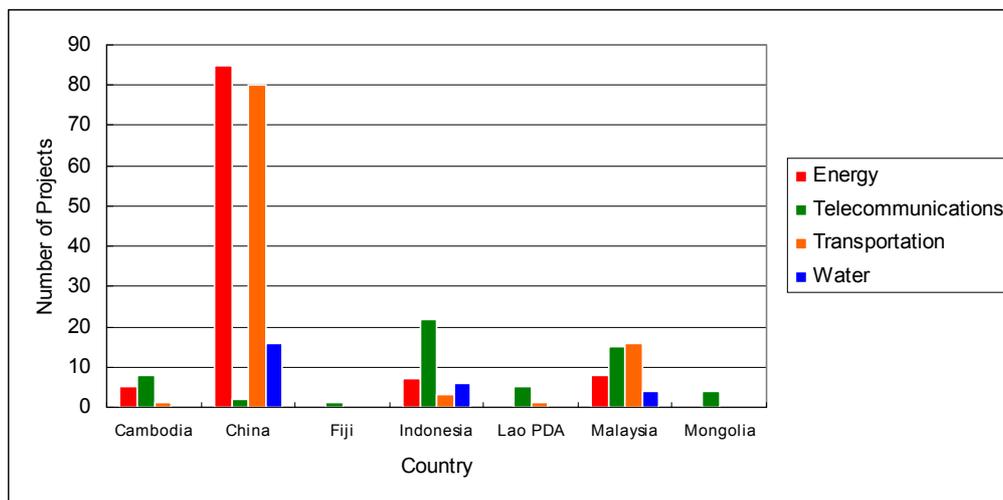


Figure 1-13 Number of PPP Projects in Developing Countries in East Asia and Pacific by Country by Sector (Cumulative 1997-2001) [1]

⁸ Id.

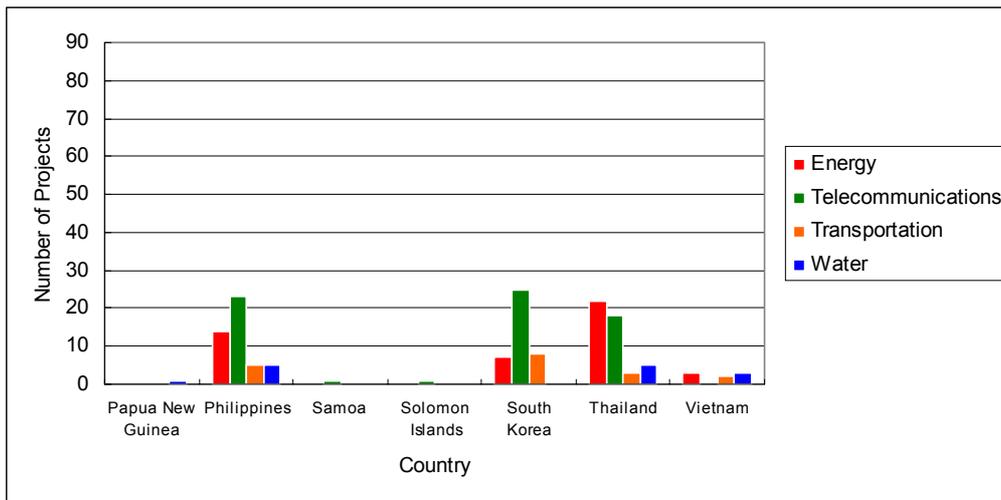


Figure 1-14 Number of PPP Projects in Developing Countries in East Asia and Pacific by Country by Sector (Cumulative 1997-2001) [2]

c China

Whilst in the past PPP has held no place in the traditionally state dominated Chinese economy, the growth of and recognition being afforded to the private sector may well mean a shift in future policy.

The Chinese private sector now accounts for some 33% of GDP and governments at all levels are beginning to lift restrictions on such businesses. Encouraging the growth of the private sector is, of course, very different to inviting the direct participation and partnership in government projects, though such developments may arise.

With limited resources to meet the needs of investments, new sources of capital need to be tapped. The private sector holds a substantial amount of wealth and recently efforts have been made to lift barriers to sectors that were previously "off-limits" to non-government investors.

Foreign investment has been invited in China, foreign capital having been injected into the water industry in twenty cities already. A notable example is Vivendi's purchase of half of the equity in the Shanghai Waterworks Pudong Co Ltd. Indeed, Vivendi won China's first "Build, Operate, Transfer" contract in 1997, relating to a tap waterplant in Tianjin.

In late 2001 the State Development Planning Commission announced "Some Opinions on Promoting and Directing Non-Governmental Investment", ruling that all sectors open to foreign investment must be opened to domestic non-governmental investors also. Enforcing the Opinion has proved problematic and it is expected to take time to shake off the inertia of bureaucracy. Nonetheless, private investors were invited to undertake construction of the northern Guandong section of the Beijing-Zhuhai Expressway due to the lack of government funds. It is hoped that this will act as a symbolic move, highlighting the viability of private investment into government projects.

d Hong Kong

The Housing Authority in Hong Kong has taken the lead in PPP programmes and initiatives. Based on a "partnering" structure, private sector involvement has been considerable.

A PPP Programme was launched in Hong Kong in 2001, recognising the need for increased public-private co-operation in the interest of efficiency and increased provision of services.

The health sector is likely to be one of the first major beneficiaries of the programme. The Hong Kong Government currently contracts out some work in the health sector, though it has expressed clear intentions to ensure that more is made available in the future.

The Information Technology sector appears to be another focus for PPP based schemes with Government-private co-operation being sought on certain initiatives.

Whilst PPP remains a relatively new concept in Hong Kong, government support and backing hints toward a significant growth in PPP projects in the coming decade.

e Indonesia

There has been a strong tradition of private sector investment in Indonesia although the "Asian crisis" hit Indonesia with particular force. Indonesia does not have a formal "PPP unit" but the power and water sectors have provided a number of examples of PSP.

Such schemes are not necessarily a brand new initiative. The water project in Marunda involved the expansion of piped water supply for household connections in the Marunda district. This was implemented in 1997 when PAM Jaya (the public sector utility), signed co-operation agreements/concession contracts with private sector foreign investors.

An initiative entitled the "Indonesia-French Public and Private Partnership" seeks to develop financial and institutional arrangements so that the private sector can invest in the development of renewable sources, hydro-power being the preliminary concentration. The "Partnership" seek to develop a suitable framework with a set of risk coverage instruments that offer the required level of comfort to potential private sector investors.

Of course, a history of an unstable political and economic environment presents obstacles to the successful implementation of a PPP programme.

f Laos

Laos is particularly notable in a PPP context for one specific project, the Theun-Hinboun Hydrodam. The project was completed in 1998 with involvement from the private sector, namely the Nordic dam building industry. Statkraft, a Norwegian company, and Vattenfall, a Swedish company, combined to create a special purpose company named Nordic Hydropower through which they invested \$22 million. Nordic Hydropower supervised the dam's construction and won the contract for the operation and maintenance of the dam post-completion. They own a 20% stake in Theun-Hinboun, as do the Thai company GMS Power, and the remaining 60% is owned by the state utility Electricite du Laos.

Whilst there have been criticisms levelled on environmental, local economic and social levels, the dam was described by the Asian Development Bank as "a proto-type for public-private partnerships". Similar development in the six-country Mekong region is expected, though political risks remain a potential barrier.

g Thailand

There has been some success in implementing PPP schemes in Thailand. There is support for the relationship between Government bodies, the private sector and non-government organisations in the health sector. The government also lends its backing to private sector involvement in the education sector, the official "Economic and Social Development Plan" promoting private educational institutions.

Prasit Patana, a private sector body, has established 7 privately constructed and operated hospitals, alongside a university, medical school and secondary school.

However, despite such supposed impetus, there is particular hesitancy on the part of the public sector in entering into partnerships. Government support only amounts to some tax exemptions and minimal financial support. Nonetheless, the World Bank is supporting an increased PPP initiative in Thailand, with proposed loans to facilitate its implementation and the International Finance Corporation (IFC) is providing direct support to the private sector for this purpose.

(3) PPP in Europe

Most European countries, in varying degrees, have begun to embrace PPP programmes, with some countries establishing central PPP Units to oversee the implementation of such models.

Rather than providing a detailed analysis of each European country, which would be beyond the scope of this paper, this section seeks to highlight the experiences in those countries selected by the UN in their "Review of Public-Private Partnerships for Infrastructure Development in Europe".

a Croatia

Whilst no authority has been established in Croatia to encourage, administer and implement PPP's, there are significant PPP schemes both underway and proposed in a number of sectors. The Zagreb Waste Water Treatment Plant, the first of its kind in Croatia, is introducing the private sector to the provision and financing of municipal wastewater services. Zagrebacke Otpadne Vode, a private company, have been invited, through an international tender, to build operate and maintain the plant.

PPP schemes have also been applied to the energy sector and the Government is focused upon the use of BOT schemes for the construction of motorways, a number of which are in place. By way of example, Bechtel, along with its longstanding Turkish partner Enka, are managing the construction of a 350km motorway between Zagreb and Dubrovnik.

b Czech Republic

A number of joint ventures between public institutions and private businesses exist, largely as a result of privatisation, in the energy, telecommunications and water and waste-water treatment sectors. A good example is the Brno-Modrice Waste-water Plant, aiming to support private sector involvement through risk allocation, management expertise and turnkey contracting.

In the energy sector, Severoceska Energetika, a regional power distribution company, is to sell its stake in PPC Trmice, a combined heat and power plant to a private operator, Dalkia Morava, a subsidiary of Dalkia International. Dalkia will operate the installation on a commercial basis. It is hoped that this transaction will act as a model for the sale of other plants to the private sector.

Whilst this private sector involvement has not been mirrored in the transport sector, a Task Force has been established to facilitate such a move. The Task Force is considering applying a PPP structure to the completion of 1335km of motorway and, if the evaluation is successful, it will act as the nucleus of a joint venture between public institutions and private businesses.

c France

There is no formal PPP unit in France, though there is a long-established tradition of public-private sector co-operation using concession structures. Such co-operation, however, is not permitted in the social infrastructure areas.

Concession agreements have a long history in France. The delegation of the construction and operation of infrastructure projects has been common practice since the nineteenth

century. Whilst the structure and content differ case by case, by necessity as explained above, the French concepts have been adopted, in at least a modified form, on a global scale.

The French model is based on "concession de service public", a form of concession contract set in a public law framework ("droit administratif"), and therefore subject to restrictions imposed by statute and case law. Concession agreements of this type have been and continue to be utilised for constructing water supply systems, motorways, toll bridges, waste treatment facilities and similar types of infrastructure projects. More recently the model has been used for the financing of large-scale transport systems (as in Toulouse, Strasbourg and Rouen) and the Grande Stade, the 1998 World Cup venue. All concessions granted by public authorities in France are subject to a specific law governing, among other things, publicity, competition and procedure.

d Germany

Private sector involvement in Germany has been considerably limited given the growth potential for PPP's. There are serious discrepancies between the forecasted necessary expenditures and the available budget in the road, rail and social infrastructure sectors. Traditional public procurement methods, however, are still considered as viable alternatives. Many services are still reserved for the public administration, making it hard for the private sector to penetrate.

Attempts have been made to implement PPP into the road construction sector. Legislation, known as "Fernstrassenbauprivatfinanzierungsgesetz", was passed allowing for "Build, Operate and Transfer" and "Design, Build Finance and Operate" schemes to be implemented. However, this law related only to special segments of road infrastructure, namely bridges and tunnels. A new PPP model, concerning a toll system for heavy traffic, has been introduced in Germany and will work independently of the above law. As a result the model can be applied to major road infrastructure projects allowing for privately financed road construction. Nonetheless, a "culture of PPP", if it exists at all, remains in a very embryonic form in Germany.

e Greece

Greece has a history of using PPP models and they are met with enthusiasm at Government level. Whilst not all projects have proved to be a success, one recent scheme worthy of note is that of Athens International Airport. The Airport is owned by the Athens International Airport SA, being 55% state owned and 45% private consortium. A Build, Own, Operate and Transfer contract was awarded to the consortium for a period of 30 years and the consortium was led by a German Construction company, Hochtief. Furthermore, some 20% of the funding came from independent/commercial sources.

f Hungary

Whilst there is no central PPP unit in Hungary, there is a privatisation law and ministry. PPP schemes are being considered and implemented in both the water and waste disposal and the transport sectors. The M5 motorway is a good example, whereby 30-year concession contracts were granted and the bulk of the commercial, operational and financial risks were borne by the private sector. Nonetheless, a considerable Government contribution was required to make the risk profile acceptable, making the project a truly Public-Private Partnership.

The Government has launched a plan (the Szechenyi plan) which seeks to expand PPP initiatives in Hungary.

g Ireland

Ireland has demonstrated a strong commitment to national PPP programme. Co-operation

between the public and private sectors have seen courts and prisons, education, local services, health, housing, transport, roads, waste and water all benefit from being designed, built, financed and operated by the private sector.

Ireland also has a strong legislative structure in place and a dedicated Government PPP unit has been established. There are committees in place to push forward such initiatives.

h Italy

The commitment in Italy to PPP programmes is strong because PPP is viewed in Italy as a valuable way in which to fill the current infrastructure gap whilst minimising the impact on public finance. Legislative reform in 1998, known as the "Merloni Ter", introduced the possibility of using PPP for both the construction and management of public infrastructure.

To aid this process the Unita Tecnica Finanza di Progetto ("UFP"), a special PPP Task Force, was created. It is the role of the UFP to promote PPP schemes, provide support in satisfying the needs of public administrations through the use of private capital and to standardise and streamline the process.

There has already been significant private investment in the power production sector, on a limited recourse basis. The Italian Banking Association estimates that this investment has been in excess of 5 billion Euros. A number of waste-to-energy plants have been financed through PPP structures, as have road, transport, water and social infrastructure schemes.

i Netherlands

The Netherlands has a strong framework for PPP's, in a manner similar to Ireland. There is a dedicated PPP unit, Kennis-centrum PPPS, that was set up in 1999 in conjunction with the Ministry of Finance.

A number of projects are already underway, including road, railway, harbour and water projects. The largest success, to date, was the HSL Zuid, high-speed rail link. This project has received an international award for being a prime model of a PPP structure.

j Poland

Whilst PPP remains a relatively new concept in Poland, the Government is active in facilitating the implementation of PPP projects. Polish Law allows the Government to share the risk of investment up to 50 %.

ESCO, the Energy Service Company, was established to finance and implement small and medium sized energy efficiency projects. One of ESCO's expected impacts, as outlined by the European Bank for Reconstruction and Development, is to encourage local and Western private sector investment in ESCO structures and energy efficiency.

Other small-scale projects are seeking to act as models for further PPP schemes in the future. The Krakow urban transport project has been set up with one of the aims being to serve as a model for the implementation of large infrastructure projects. It seeks to utilise careful risk allocation and private sector project management and design and construction expertise. Whilst such schemes are "pilots" at present, they indicate a genuine intention to proceed with and develop a solid PPP structure.

k Portugal

Although the Portuguese do not have a designated PPP unit, they have been very active in the implementation of PPP projects. The development of the Tagus Bridge in Lisbon was one of the notable early examples of the involvement of the private sector in what was, traditionally, an exclusively public arena.

The Ministry of Public Works has developed the "SCUT" programme, with the aim of building the road infrastructure on a PPP basis. Three projects have already reached financial close and one more has been syndicated. Portugal has over ten more such projects that are being implemented.

The Portuguese have not only concentrated on large-scale projects. Medium infrastructure PPP projects, such as parking, subways, local transport and museums, have received Government support.

l Romania

PPP is very much a new concept in Romania, though a few projects are already being explored, including a Motorway between Bucharest and Constantina.

A twenty-five year concession has been awarded to French Company Vivendi to provide water and pipeline rehabilitation services in Bucharest, through the recently privatised water company Apa Nova.

Further, the commercialisation and privatisation of the National Administration of Roads was seen as an opportunity for the development of private sector involvement in this area. Borne out of this is the example of the Pitetsi By-pass project. With a project cost of 116 million Euros, the project seeks to explore the feasibility of road financing through PPP's.

m Slovenia

It is acknowledged that investment is required in all of Slovenia's economic infrastructures and there is a consensus over the need for the private sector's involvement in this area.

There is some evidence that this is slowly being realised. One example is the Maribor water and waste-water "Build, Operate, Transfer" project. The project is seeking to optimise private sector involvement and is offering a contract for the design, financing and construction of the project, as well as the maintenance and operation of the plant for a 22 year period.

n Spain

Spain has not developed a PPP unit, though in a manner similar to that of Portugal has a road programme based upon the PPP structure. There are further initiatives expected also. The state rail company is expected to invite (and may have already invited) private sector involvement in new rail lines. PPP projects are also planned in the health and waste management sectors.

In the energy sector, six wind farm projects in Northern Spain have been underwritten by Germany's Hypovereinsbank, whilst Terranova Energy Corp. (US) and Tomen Power (Europe) will provide some 53 million Euros in Equity.

o Ukraine

There is no official policy regarding PPP in the Ukraine, though there are strong trends towards privatisation in both the power and waste management sectors, suggesting that some form of PPP schemes may soon be put in place.

(4) Private Finance Initiative (PFI) in UK

a Background

Partnerships with the private sector take on many forms. Perhaps the most established example of a PPP is the PFI model in the UK. PFI draws from many of the principles of the BOT, BOOT and DBFO project structures.

Indeed, the UK PFI structure originally developed out of large DBFO infrastructure projects commissioned in the 1980's such as the second Severn Crossing, the Dartfield River Crossing and, the Channel Tunnel. As a result of the economic conditions in the early 90's and the political aspirations of the then Conservative Government, the concept of PFI was launched in 1992. Essentially it was seen as a way of reducing public borrowing and at the same time outsourcing many of the services traditionally provided by public sector. The first schemes to be promoted involved prisons and hospitals.

By the time of the election of Tony Blair's Labour Government in May 1997 little progress had been made on the development of PFI. A few prison schemes had reached financial close though none of the hospital schemes had done so. The procurement process had been hindered by difficult commercial and legal issues, the effect of which was accentuated by the varying approaches adopted by the different public sector organisations and bidders. One major issue was the question of vires, namely the ability of Central Government to underwrite liabilities of public sector bodies such as NHS Trusts. This resulted in the passage of legislation addressing these issues, in the shape of the National Health Service (Residual Liabilities) Act 1996 and the Local Government (Contracts) Act 1997.

Contrary to the concerns expressed at the time, the concept of PFI, which was re-branded "Public Private Partnership", was almost universally adopted by the new Labour administration. They adopted a pragmatic approach, realising the benefits that PFI could deliver in terms of new infrastructure projects. The need to accelerate various statutory reforms was recognised as was the need for the public sector to adopt a much more "joined up" approach. This approach envisaged the government pulling its resources together and fully supporting the PPP initiative with a view to attracting the potential 'key players'. There was further encouragement with the development of standardisation and the adoption of "pathfinder" schemes. Pathfinder was the name given to pilot projects that were prioritised due to the likelihood of them being affordable and successful.

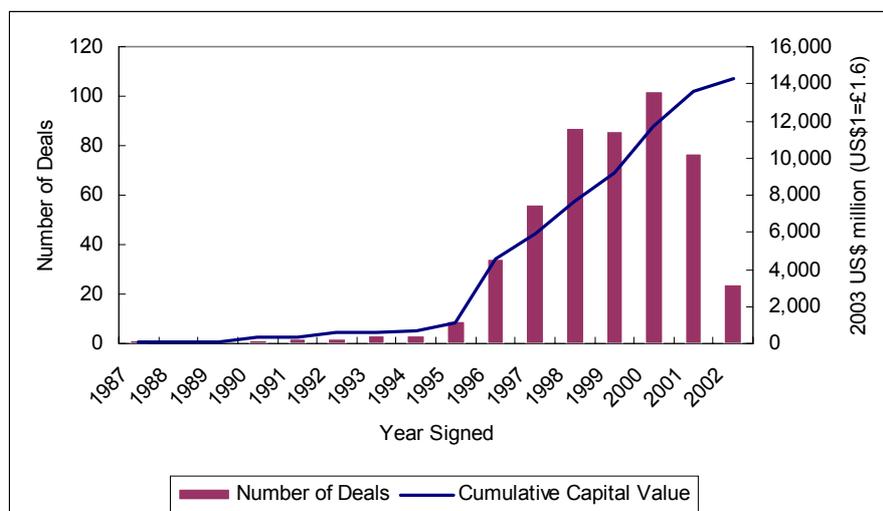


Figure 1-15 Number of PFI Projects and Cumulative Capital Value in UK 1987-2001

b Growth of Standardization

As briefly referred to above, the need for standardization was recognised at a relatively early stage in the development of PFI. In this context standardization meant standardization of both the documentation employed and the approach adopted by the public sector. The principle public sector body for developing this was the Treasury and it was instrumental in developing the first set of guidelines, published by the "Treasury Taskforce" in 1999. This was supplemented by departmental guidance aimed at the issues faced by specific Government Departments (such as education, health, home office etc.).

During the late 1990s the need for specific advice to local authorities was recognised, as the impetus for PFI moved from Central Government to Local Government. It was assisted by the creation of the Public Private Partnership Programme ("4Ps") as a central advisory service to local authorities. Both the 4Ps and the Treasury, together with the Central Government departments, were encouraged to sponsor pathfinder schemes, to award projects in "waves" or "tranches" and to share know-how. Ultimately this led to the creation of Partnerships UK ("PUK"), the successor to the Treasury Taskforce, in early 2001, as a Government sponsored advisory body (whereas the 4Ps is aimed at Local Authority projects only). PUK was encouraged to adopt a commercial approach and now offers its consultancy services to the public sector generally. Both the 4P's and PUK were instrumental in the development of the latest guidance in various sectors and assisted with the publication of the "Standardization of PFI Contracts" by the Office of Government and Commerce ("OGC") in 2002. This publication remains the current benchmark for all PFI schemes in the UK.

(5) PFI in Japan

Since the enforcement of PFI Law in September 1999 and the publication of PFI policy framework in March 2000 in Japan, PFI scheme has been utilized for some of public sector projects of Central / Local Governments. The number of PFI projects has increased dramatically. The purposes of this presentation are to address the trend of PFI projects in Japan in 1999-2002 and to introduce the mechanisms of PFI scheme to maintain the transparency and sustainability of public services through the explanation of the objectives and characteristics of PFI.

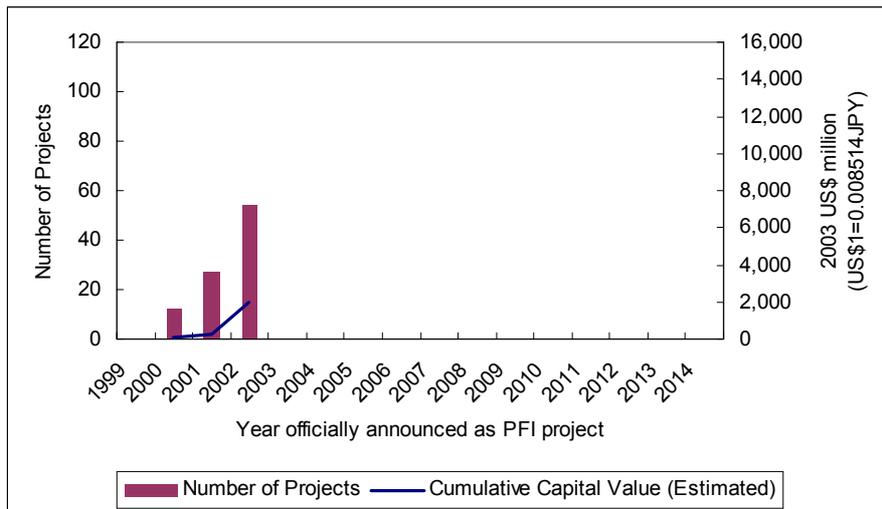


Figure 1-16 Number of PFI Projects and Cumulative Capital Value (Estimated) in Japan 2000-2002

PFI has been applied to mainly relatively small-scaled projects such as civic complex and sports & recreation facility since PFI policy framework was published in March 2000. In these days, however, we see larger-scaled projects such as hospitals, waste recycle centers and government offices. The total capital cost of PFI projects to be signed in the fiscal year 2002 (April 2002 – March 2003) is estimated USD 2.0 billion. On Life Cycle Cost (LCC) basis, the total amount of such contracts shall be approx. USD 5 billion.

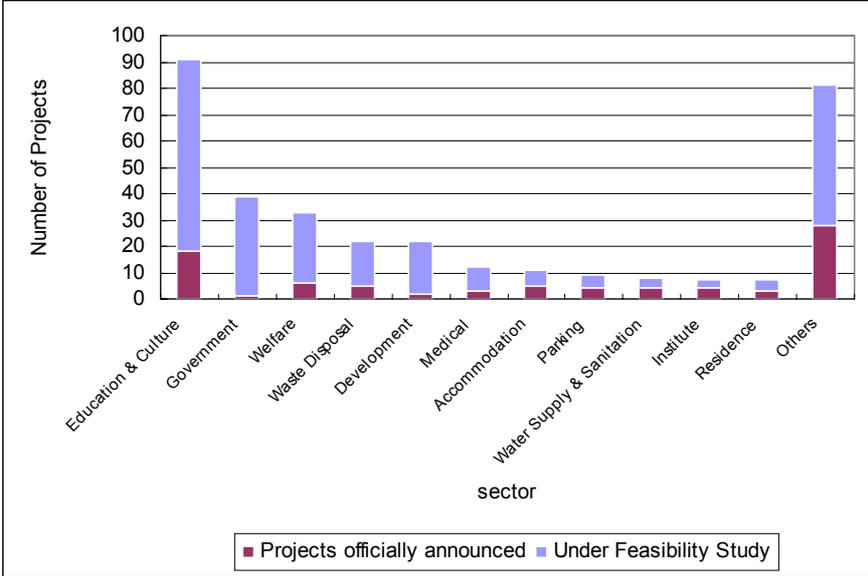


Figure 1-17 Number of PFI Projects in Japan by Sector (Cumulative) 2000-2002

It is reported in December 2002 that 341 projects are under feasibility study for PFI implementation or ongoing as PFI projects. Out of the 341 projects, 51 contracts shall be signed by March 2003.

In terms of sector of 341 PFI projects, Education & Culture is the biggest share of 27%. The second biggest is Government Office (12%).

2 Diversity of PPP Models and PFI

(1) Diversity of PPP Models

The opportunity for private sector participation in infrastructure projects can be ranged along a continuum, as detailed in figures below. At one end of this continuum are projects in which the Government retains full responsibility for the operation, maintenance, capital investment, financing and commercial risk. This could be described as the method by which public services were traditionally delivered in the UK, and continue to be delivered in many jurisdictions.

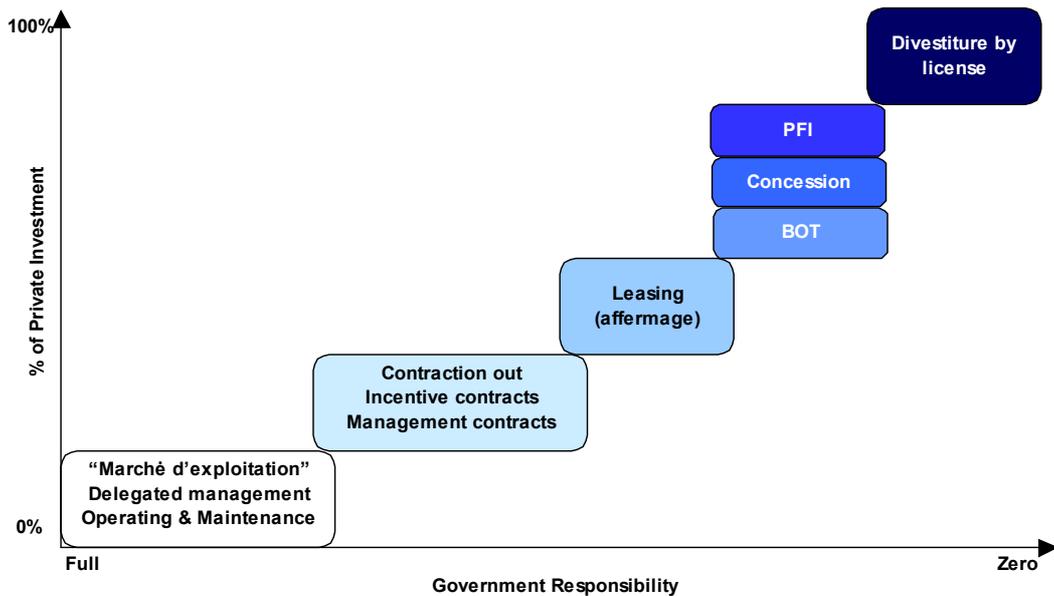


Figure 1-18 Government Responsibility and % of Private Investment by PPP Model



Figure 1-19 Ownership and Provision by PPP Model

At the other end of the continuum are infrastructure projects in which the private sector takes on much of the risk and responsibility, in some cases leading to full divestment of the Government asset or function. However it is important to note that even where the private sector takes on full responsibility, it has to operate within the ambit of the Government's regulatory control and framework structures. Government regulation, either by contract or through the Government's legislative function, is necessary to protect the Government's interest in ensuring that services and infrastructure previously delivered by the Government are delivered in an acceptable manner. This regulation can seek to protect consumers against the delivery of poor quality services, regulate overpricing and enforce environmental standards.

In between these two extremes along the continuum are models where the private sector is participating in the provision of infrastructure in some way. The nomenclature for these models is not precise. However, these structures are variously described as PPP, PSP, PFI (after the UK and Japan formal PFI schemes), Commercialisation and Privatisation. For example, in a less comprehensive PPP scheme the government may first enter into service contracts or seek to outsource the maintenance and operation of the asset. This allows for

PSP and even for foreign direct investment ("FDI") without a radical change in the existing Government structure surrounding the delivery of services. Further along the continuum, Governments may seek to pass on responsibility for the construction and operation of the facility to the private sector. This sort of model would include "build, own, transfer" agreements ("BOT"), concession contracts, "build own operate and transfer" agreements ("BOOT"), and the "design, build, finance and operate" ("DBFO") model often used in the UK. The determining factor is the degree of responsibility given to the private sector participants for capital investment and asset ownership. Generally, the greater the responsibility for these areas placed on the private sector the longer the contract term, in order to ensure that the private sector participants are able to obtain a sufficient return on their investment.

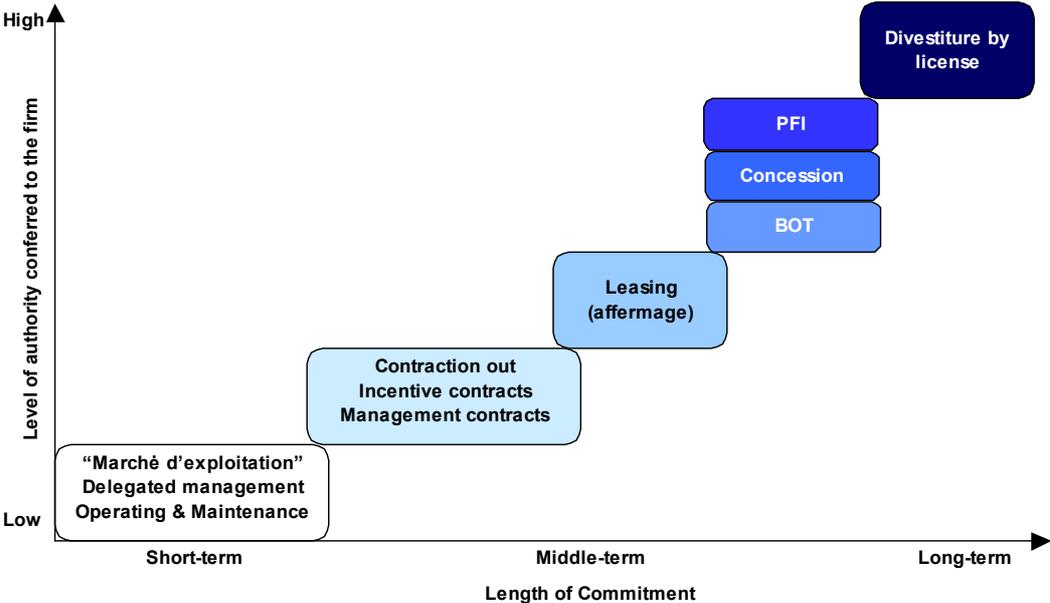


Figure 1-20 Length of Commitment and Level of Authority Conferred to the Firm by PPP Model

a World Bank
a-1 Type of PPP Model⁹

(1) Management and Operation Contracts (M&O Contracts)
A private entity takes over the management of a state-owned enterprise for a given period. The facility is always owned by the public sector. Key features of this contract type are:

Ownership	Public
Operation	Private
Capital Expenditure	Public
Operating Expenditure	Private or Public

There are two sub-classes of M&O Contracts:

(1-1) Management contract:
The government pays a private operator to manage the facility and takes on most of the operating risk.

(1-2) Lease-Operate contract:

⁹ World Bank, PPI Database, Database Criteria and Terminology

A private operator pays a fee to the government for the right to manage the facility and takes on most of the operating risk.

(2) M&O with Major Private Capital Expenditure (Concessions)

A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk. Key features of this contract type are:

Ownership	Public
Operation	Private
Capital Expenditure	Private
Operating Expenditure	Private

There are five sub-classes of M&O Contracts with major capital expenditure:

(2-1) BTO (Build Transfer Operate):

A private operator manages a turnkey project that is intended for immediate transfer of the ownership to public sector, but the facility.

(2-2) BLT (Build, Lease or Rent, Transfer):

A private developer builds a new facility at its own risk, leases that facility from its government owner (which bears the risk), and then operates and maintains the facility for a given period.

(2-3) ROT (Rehabilitate Operate Transfer):

A private developer rehabilitates an existing facility at its own risk, and then operates and maintains the facility at its own risk for a given period.

(2-4) RLT (Rehabilitate, Lease or Rent, Transfer):

A private developer rehabilitates an existing facility at its own risk, leases or rents the facility from the government owner which is at risk, and then operates and maintains the facility at its own risk for a given period.

(2-5) BROT (Build Rehabilitate Operate Transfer):

A private developer builds an add-on to an existing facility or completes a partially built facility and rehabilitates existing assets, and then operates and maintains the facility at its own risk for a given period.

(3) Greenfield Projects

A private entity or a public-private joint venture builds and operates a new facility for a given period specified in the project contract. The facility may return to the public sector at the end of the concession period. Key features of this contract type are:

Ownership	Private or Mixed
Operation	Private or Mixed
Capital Expenditure	Private or Mixed
Operating Expenditure	Private or Mixed

There are four sub-classes of greenfield projects:

(3-1) BLO (Build Lease Own):

A private developer builds a new facility at its own risk, transfers ownership to the government, leases the facility from the government and operates it at its own risk, and

then receives full ownership of the facility at the end of the concession period. The government usually provides revenue guarantees through long-term take-or-pay contracts for bulk supply facilities or minimum traffic revenue guarantees.

(3-2) BOT (Build Own Transfer) or BOOT (Build Own Operate Transfer):

A private developer builds a new facility at its own risk, owns and operates the facility at its own risk, and then transfers ownership of the facility to the government at the end of the concession period. The government usually provides revenue guarantees through long-term take-or-pay contracts for bulk supply facilities or minimum traffic revenue guarantees.

(3-3) BOO (Build Own Operate):

A private developer builds a new facility at its own risk, owns and operates the facility at its own risk. The government usually provides revenue guarantees through long-term take-or-pay contracts for bulk supply facilities or minimum traffic revenue guarantees.

(3-4) Merchant:

A private developer builds a new facility in a liberalized market where the government does not provide any revenue guarantee. Private developer assumes construction, operation, and market risk of the project.

(4) Divestitures

A private consortium buys an equity stake in a state-owned enterprise through an asset sale, public offering or mass privatisation program. Key features of this contract type are:

Ownership	Private or Mixed
Operation	Private, Mixed or Public*
Capital Expenditure	Private or Mixed
Operating Expenditure	Private or Mixed

There are two sub-classes of divestitures:

(4-1) Full:

The government transfers 100% of the equity in the state-owned company to private entities (operator, institutional investors, etc.).

(4-2) Partial:

The government transfers part of the equity in the state-owned company to private entities (operator, institutional investors, etc.). The private stake may or may not imply private management of the facility.

The World Bank Toolkit¹⁰ gives examples of what type of model should be used for particular projects.

(a) Service Contracts

Though relatively simple, service contracts must be carefully specified and managed by the public sector. They cannot be a substitute for reform in a facility that has poor management. Tasks delegated could include toll collection, the installation and reading of meters in the water sector or the provision and maintenance of computers.

(b) Management Contracts

Management contracts involve the transfer of responsibility for operation and maintenance

¹⁰ The International Bank for Reconstruction and Development/The World Bank: Toolkit on Water and Sanitation: Selecting an Option for Private Sector Participation, 1997

to the private sector and are most likely to be useful where the main objective is to enhance a facility's technical capacity and efficiency (or as a prelude to greater private sector involvement). As these type of arrangements do not transfer commercial risk to the private sector they do not always draw on the private sector's ability to reduce costs through innovation.

The types of structures in (a) and (b) are a very useful first step in emerging markets. The contracts enable the Government to introduce some private sector involvement into the existing service supply structure. This introduction will generally be accompanied by an element of commercialisation of the service provided or the entire infrastructure sector. This has been termed "capacity building" as it begins to build the capacity in the Government service to accommodate PSP with the long-term aim of utilising the advantages of private sector involvement.

(c) Lease Arrangements

A lease arrangement will leave the responsibility for financing and planning investment with the government, but seek to transfer more commercial risk to the private sector as the lessee's ability to derive a profit is linked with its ability to reduce operating costs.

(d) Concession Contracts

This type of arrangement envisages the private sector taking responsibility for both the operation and maintenance of a facility and for the required capital investment, such as modernisation or refurbishment. The ownership of the asset remains with the government and rights to use the assets transfer back to the government at the end of the concession period (usually 25-30 years). The concession contract structure is attractive where large investments are needed to expand the coverage of the services or to improve the quality of the services. It is very similar to the BOT contracts although concession contracts tend to be used where the asset must be rehabilitated, rather than constructed from a 'greenfield' site. Commonly, one will find all concession structures loosely referred to as BOT and they may be regulated by a domestic "BOT Law" generally put in place to facilitate PPP (as in Germany). Concession contracts have a long history of use in infrastructure developments, particularly in France.

(e) BOT Contracts

More commonly applicable to 'greenfield' sites, the BOT structure involves the government paying for the services delivered by the facility, the facility having been built and consequently operated by the private sector participants. A price will be set covering the life of the contract, encompassing the construction and operation cost of the facility and a reasonable/profitable return to the private sector operator. The BOT arrangement is similar to the BOOT, DBFO type arrangements. At the end of the arrangement, again usually 25 to 30 years, the facility will be transferred back to the public sector.

(f) PFI

For a detailed discussion and analysis of PFI, see section (2).

(g) Full Privatisation

Full privatisation will give the private sector full responsibility for operations, maintenance and investment. Ownership of the assets in question will pass fully to the private sector body, being the key difference between privatisation and concession and BOT agreements. The only concern of the government will be the regulatory function.

b European Commission
b-1 Type of PPP Model ¹¹

(1) Service Contracts

Public agencies can enter into service contracts with private sector companies for the completion of specific tasks. Service contracts are well suited to operational requirements and may often focus on the procurement, operation and maintenance of new equipment. Service contracts are generally awarded on a competitive basis and extend for short periods of time of a few months up to a few years. They allow public agencies to benefit from the particular technical expertise of the private sector, manage staffing issues, and achieve potential cost savings. Management and investment responsibilities remain strictly with the public sector.

(2) Operation and Management Contracts

Public operating agencies utilize management contracts to transfer responsibility for asset operation and management to the private sector. These comprehensive agreements transfer involve both service and management aspects and are often useful in encouraging enhanced efficiencies and technological sophistication. Management contracts tend to be short term, but often extend for longer periods than service agreements. Contractors can be paid either on a fixed fee basis, or on an incentive basis where they receive premiums for meeting specified service levels or performance targets.

Management contracts may be used to as a means to transfer responsibilities for a specific plant, facility or services provided by an infrastructure owner. Responsibility for investment decisions remains with the public authority.

(3) Leasing

Leases provide a means for private firms to purchase the income streams generated by publicly owned assets in exchange for a fixed fee lease payment and the obligation to operate and maintain the assets. Lease transactions transfer commercial risk to the private sector partner, as the lessor's ability to derive a profit is linked with its ability to reduce operating costs, while still meeting designated service levels.

Responsibility for planning and financing overall investment and expansion programs remains with the public sector owner. Lease agreements can be expected to extend for a period of five to fifteen years.

(4) Build-Operate-Transfer (BOT)

BOT system involves transferring responsibility for the design, construction, and operation of a single facility or group of assets to a private sector partner.

The public sector awards BOT contracts by competitive bid following a transparent tender process. Tenderers respond to the specifications provided in the tender documents and are usually required to provide a single price for the design, construction and maintenance of the facility for whatever period time is specified.

BOT approach does not relieve public sector owners of the burden of financing the related infrastructure improvements. From design through operation, BOT contracts can extend for periods of up to twenty years or more.

(5) PPP Concessions

Design-Build-Finance-Operate (DBFO) Concessions

DBFO agreements enable a private investment partner to finance, construct, and operate

¹¹ European Commission, ISPA-PPP Operational Guidelines for Successful Public-Private Partnerships, Working Draft 13/06/2002

a revenue generating infrastructure improvement in exchange for the right to collect the associated revenues a specified period of time.

PPP concessions often extend for a period of 25 to 30 years, or even longer, and are awarded under competitive bidding conditions. Under a concession approach the ownership of all assets, both existing and new, remains with the public sector.

(6) Complete Private Divestiture

Private divestiture involves the sale of assets or shares of a state-owned company to the private sector. In case of a complete divestiture, the entire assets of a utility would be sold either to a single investor, a group of investors, or possibly through a management buyout. Divestiture gives the private sector ownership of the assets themselves, and that ownership is permanent. The government relinquishes further control with a divestiture approach, maintaining only a regulatory role, protecting consumers from monopolistic pricing.

(7) Partial Private Divestiture

With a partial private divestiture, the government would retain ownership of a certain portion of the former public company's assets. This is often a more attractive alternative to those governments or authorities who wish to maintain a certain level of control in the management of the assets. In such cases, the interplay of responsibilities between the public and private sectors is blended.

b-2 Advantages and Disadvantages of PPP Relationships¹²

PPP Type	Main Features	Application	Strengths	Weaknesses
Contracting	<ul style="list-style-type: none"> Contract with Private party to design & build public facility Facility is financed & owned by public sector Key driver is the transfer of design and construction risk. 	<ul style="list-style-type: none"> Suited to capital projects with small operating requirement. Suited to capital projects where the public sector wishes to retain operating responsibility. 	<ul style="list-style-type: none"> Transfer of design and construction risk Potential to accelerate construction program 	<ul style="list-style-type: none"> Possible conflict between planning and environmental considerations. May increase operational risk. Commissioning stage is critical. Limited incentive for whole life costing approach to design. Does not attract private finance
BOT	<ul style="list-style-type: none"> Contract with a private sector contractor to design, build and operate a public facility for a defined period, after which the facility is handed back to the public sector. The facility is financed by the public sector and remains in public ownership throughout the contract. Key driver is the transfer of operating risk in addition to design and construction risk. 	<ul style="list-style-type: none"> Suited to projects that involve a significant operating content. Particularly suited to water and waste projects. 	<ul style="list-style-type: none"> Transfer of design, construction and operating risk Potential to accelerate construction Risk transfer provides incentive for adoption of whole life costing approach Promotes private sector innovation and improved value for money. Improved quality of operation and maintenance. Contracts can be holistic Government able to focus on core public sector responsibilities. 	<ul style="list-style-type: none"> Possible conflict between planning and environmental considerations. Contracts are more complex and tendering process can take longer Contract management and performance monitoring systems required. Cost of re-entering the business if operator proves unsatisfactory Does not attract private finance and omits public sector to providing long term finance.
DBFO	<ul style="list-style-type: none"> Contract with a private party to design, build, operate and finance a facility for defined period, after which the facility reverts to the public sector. The facility is owned by the private sector for the contract period and it recovers costs through public subvention. Key driver is the utilization of private finance and transfer of design, construction & operating risk. Variant forms involve different combinations of the principle responsibilities. 	<ul style="list-style-type: none"> Suited to projects that involve a significant operating content. Particularly suited to roads, water and waste projects. 	<ul style="list-style-type: none"> As for BOU plus: Attracts private sector finance; Attracts debt finance discipline; Delivers more predictable and consistent cost profile; Greater potential for accelerated construction programme; and Increased risk transfer provides greater incentive for private sector contractor to adopt a whole life costing approach to design. 	<ul style="list-style-type: none"> Possible conflict between planning and environmental considerations. Contracts can be more complex and tendering process can take longer than for BOT. Contract management and performance monitoring systems required. Cost of re-entering the business if operator proves unsatisfactory. Funding guarantees may be required. change management system required.
Concession	<ul style="list-style-type: none"> As for DBFO except Private Party recovers costs from user charge. Key driver is the polluter pays Principle and utilizing private finance and transferring design, construction and operating risk. 	<ul style="list-style-type: none"> Suited to projects that provide an opportunity for the introduction of user changing. Particularly suited to roads, water (non-domestic) and waste projects. 	<ul style="list-style-type: none"> As for DBFO plus: Facilitates implementation of the Polluter Pays Principle; and Increases level of demand risk transfer and encourages generation of third party revenue. 	<ul style="list-style-type: none"> As for DBFO plus: Many not be politically acceptable Requires effective management of alternatives/substitutes, eg. alternative transport routes; alternative waste disposal options

¹² European Commission, ISPA-PPP Operational Guidelines for Successful Public-Private Partnerships, Working Draft 13/06/2002

b-3 The Effectiveness of Alternative PPP Structures¹³

	Improved Service	Enhanced Operational Efficiency	Enhanced Risk Sharing	Life Cycle Costing	Accelerated Implementation	Leveraging of Public Funds	Implementation Constraints
Private Outsourcing							
Service Contracts	Possible	Yes	No	No	No	No	Low
Management Contracts	Yes	Yes	No	No	No	No	Moderate
Leasing	Possible	Yes	Some	Possible	No	No	Moderate
Integrated Private Development							
BOT	Yes	Yes	Some	Yes			High
Private Investment							
DBFO Concessions	Yes	Yes	Yes	Yes	Yes	Yes	Very High
Full Privatization							
Divestiture	Yes	Yes	Yes	Yes	Possible	Yes	Very High

¹³ European Commission, ISPA-PPP Operational Guidelines for Successful Public-Private Partnerships, Working Draft 13/06/2002

c United Nations
c-1 Type of PPP Model ¹⁴

- (1) Contracting out or management contracts – where the private sector is only partially involved, for example it provides a service or manages without taking any risk;
- (2) Joint ventures – where the private and public sector jointly finance, own and operate facility;
- (3) Leasing – where part of the risk is transferred to the private sector;
- (4) BOT (Build Operate Transfer) – where the private sector takes primary responsibility for funding, designing, building and operating the project. Control and formal ownership of the project is then transferred back to the public sector. Possible variations on this theme can be BOOT (Build Own Operate Transfer); DFBO (Design Construct Manage and Finance); BLT (Build Lease Transfer) and many others;
- (5) BOO (Build Own Operate) – where the control and the ownership of the projects remain in private hands.

d Asian Development Bank
d-1 Type of PPP Model in Water Supply¹⁵

- (1) Service Contracts
Service Contracts include supply and civil work contracts, technical assistance contracts, plus sub-contracting or contracting out aspects of the water supply services. In its simplest form, the private contractor provides agreed services to the public authority under the public authority's general control and supervision.

Service contracts are a potentially beneficial form of Private Sector Participation (PSP) where there is strong political or community opposition to wider involvement of the private sector and if there is opposition to water tariff increases which are generally required for many of the other forms of PSP.
- (2) Management Contracts
A management contract is a more comprehensive form of service contract, under which the public authority appoints a private contractor to manage all or part of its operations. Under such contracts, the bulk of the commercial risk and all the capital and investment risks remain with the government.

Responsibility for all investment remains with government under a management contract. These contracts are useful if the core objective is to increase a utility's technical efficiency for performance of specific tasks. If management contracts include clauses which link the contract payments to utility performance they come closer to the lease and concession arrangements.
- (3) Lease Contracts (affermage)
Under a lease contract, a water utility leases the full operation and maintenance of its facilities within an agreed geographic area to a private operator for a period of time, say, ten years. The contract grants the operator the right to invoice and collect charges from customers within that area. The public utility would own the assets and remain responsible

¹⁴ United Nations (Economic and Social Council), A Review of Public-Private Partnerships for Infrastructure Development in Europe, Page 4, TRADE/WP.5/2002/13

¹⁵ ADB, Developing Best Practices for Promoting Private Sector Investment in Infrastructure, Water Supply, 2000

for major extensions and upgrades.

Under a best practice lease contract, the private operator would take the full commercial risk on all operations within its lease area, with its remuneration directly linked to the charges it collects from customers. From these charges, it would pay the public utility a rental fee intended to cover the public utility's capital costs in extending or upgrading the facilities.

Under a lease contract, the operator is usually required to finance the renewal of plant and equipment. At the termination of the contract, the government would compensate the operator for the works it had financed that had not yet been fully amortized. Best practice lease contracts have built-in incentives that encourage the private operators to:

- 1) Update customer files and implement efficient collection procedures to improve the collection ratio from customers.
- 2) Implement an aggressive commercial policy aimed at servicing more customers to increase the revenue base.
- 3) Reduce operating costs to maximize profits.
- 4) Carry out regular maintenance to increase the reliability of plant and equipment and postpone their renewal.
- 5) Make decisions, not only on day-to-day management issues, but also on improvement of the facilities for which the operator is responsible.

(4) BOT Type Contracts

BOT, build-own-operate-transfer (BOOT), and ROT schemes are a variety of adaptations of leasing contracts specifically designed for Greenfield water supply projects or investments in water supply infrastructure which require extensive rehabilitation. Under these arrangements, the private sector typically designs, constructs and operates facilities, and provides services to municipal or government owned water utilities. Generally, any existing underlying assets are leased for a limited period, often 15-30 years.

In contrast with lease contracts, BOT type contracts allocate much more of the commercial risk for specific projects to private parties rather than governments.

BOT schemes, because they do not involve management of distribution systems down to the household or business meter, are easier to implement than more comprehensive private sector models such as retail concessions, which require more extensive negotiation of contracts.

(5) Concession Contracts

Concession contracts combine elements of operation leases for existing assets and BOT contracts for Greenfield or ROT contracts for major rehabilitation investments. Under concession contracts, a private operator is given a contractual right to use existing infrastructure assets to supply customers. However, the concession contract also includes obligations to finance extensions and upgrades to the existing water supply. This tends to result in concession contracts being of longer duration than lease contracts to enable the operator to recover its capital and financing costs.

In comparison to single project BOT type schemes, concessions leave greater flexibility in the hands of the operator in determining the nature and timing of the investments they make to achieve contractual supply obligations. Typically, under a concession agreement, the constructor and operators also are given the right to supply retail services direct to customers.

(6) Divestiture and Build Own Operate

Divestiture can be by way of sale of assets, sale of shares or management buy-out. Like divestiture, BOO contracts require removal of constraints to private sector entry in water supply and the introduction of competitive market structures or regulation by government.

In a full divestiture or BOO arrangement, the private sector has full responsibility for operations, maintenance, and investment in a utility. In contrast to a concession, these arrangements transfer assets to, or permit Greenfield water supply investments by, the private sector.

d-2 Main Features of Private Sector Participation (PSP) Options for Water Supply¹⁶

PSP Option	Service Contract	Management Contract	Lease Contract	Build Operate Transfer (BOT)	Concession Contract	Full Divestiture
Financing Investments	Public sector	Public sector	Public sector	Private sector	Private sector	Private sector
Financing working capital	Public sector	Public sector	Private sector	Private sector	Private sector	Private sector
Contractual relation with retail customers	Public sector	Private sector (on behalf of Public sector)	Private sector	Public sector	Private sector	Private sector
Private sector responsibility and autonomy	Low	Low	Low to medium	Medium to high	High	High
Need for private capital	Low	Low	Low	High	High	High
Financial risk for private sector	Low	Low	Low to medium	High	High	High
Duration of contract/license (years)	1-2	3-5	5-10	20->30	20-30	License may be in perpetuity with provision to withdraw or revoke
Ownership	Public sector	Public sector	Public sector	Private then public sector	Public sector	Private sector
Management	Mainly Public sector	Private sector	Private sector	Private sector	Private sector	Private sector
Setting retail water tariffs	Public sector	Public sector	Contract and regulator	Public sector	Contract and regulator	Regulator
Collecting retail water tariffs	Public sector	Private sector	Private sector	Public sector	Private sector	Private sector
Main objective of PSP	Improve operating efficiency	Improving technical efficiency	Improving technical efficiency	Mobilize private capital and/or expertise	Mobilize private capital and/or expertise	Mobilize private capital and/or expertise

¹⁶ Id.

d-3 Potential Benefits of Various PSP Options¹⁷

Service Contracts	Management Contract	Lease	Concession	BOT/BOOT/ROT	Divestiture
Promotes competition in area of contract	Can improve service	Can increase efficiency of asset management increases profits	Takes over management of operations from government	A fast option for improving bulk water supply	A fast option for improving bulk water supply
If contract fails, risk is relatively low	Reduced risks to government and contractor	Reduced government risk of not collecting adequate tariffs	Relieves government of need to fund investments	Full responsibility for operations, capital raising and investment goes to private sector	Full responsibility for operations, capital raising and investment goes to private sector
Contracts of short duration – if problems with contract – can easily re tender	Potential first step to concession contract Potential for settling performance standards	Proportion of management responsibility and commercial risk transferred	Full responsibility for operations, capital raising and investment goes to private sector	Potentially large improvements in operating efficiency of bulk assets	Potentially large improvements in operating efficiency of water utility
Easy/simple contractual form	(with incentive to achieve standards)		Potentially large improvements in operating efficiency	Full private sector incentives in bulk supply	Full private sector incentives in bulk supply
Potential starting point for PSP	Scope to introduce private sector management skills	Incentives for contractor to minimize costs, provide reliable services incentives across utility and minimize revenue collection	Full private sector	Attractive to private financial institutions	
Can increase utility's focus on core business	Limited commercial risks		Attractive to private financial institutions	Mobilizes private finance for new investments	Mobilizes private finance for new investments
Potential for efficiency gains in the area covered by contract	Can revert to in house management or contract may be re tendered if problems arise Potential for utility to bring in competition		Attractive to private financial institutions	Addresses funding shortfall	Addresses any funding shortfall. Could be successful where there is good track record of private sector ownership. Private water company would have clear incentives and achieve full cost recovery

¹⁷ ADB, Developing Best Practices for Promoting Private Sector Investment in Infrastructure, Water Supply

(2) PFI Scheme in UK

a Central Concepts of PFI

One of the two defining features of PFI is the provision of private finance into public sector projects. This relieves the onus on the public sector to incur capital expenditure and the liabilities associated with it. Unlike traditional lending, the private sectors' debt is secured on the income stream, rather than on the property or other assets of the public or private sector participants. Obviously an income stream from Central Government, or one which is underwritten directly or indirectly by Central Government (as is the case with Local Government), is in itself a valuable asset, particularly in an established economy such as that of the UK. As a result, funding can be obtained at attractive rates. From a banking perspective, if the risk issues are properly managed and allocated, PFI lending can be equated to lending to Central Government.

The second defining feature of PFI is the provision of services by the private sector to the public sector. Those services are provided via an "asset", specifically designed, constructed and funded by the private sector for such provision. The public sector's obligation is to pay for the services provided.

It follows that a central theme of PFI is "no service no fee". The fee/service charge is usually paid by the public sector on a monthly basis and referred to as the unitary charge. There are deductions levied against this unitary charge to reflect the extent to which services are not provided to the agreed standard. With regard to deductions there are two basic concepts: availability and performance.

Availability concerns the physical state and condition of areas within the asset. If a specified area is not available, then a deduction equivalent to the proportion of the unitary charge applicable to that area is made. Available in this context means meeting, in all respects, pre-agreed standards as set out in the Output Specification. Performance concerns the quality of the services provided within the asset. If a service is not provided to the required quality, a deduction is made equivalent to the value of that service. Details of payments and deductions are set out in the payment mechanism. To ensure proper commercial incentive there are provisions for the escalation of deductions to discourage continued poor performance or unavailability and also for the weighting of certain areas which are considered to be more important.

As far as the public sector is concerned PFI is not about the design or construction of capital assets, or indeed their operation and maintenance. It is about the services that are delivered from or by those assets. In the early days of PFI many in the public sector failed to recognise the impact that PFI had on the traditional approach to the procurement of capital assets.

(3) PFI Scheme in Japan

a Objectives of PFI

The objectives of PFI are:

- (1) To challenge the minimization of Life Cycle Cost (LCC) of public services such as schools, hospitals, waste management, government office, etc,
- (2) To utilize private finance for the construction of public facilities for the provision of public services, and
- (3) To involve residents to it in order to improve the quality and quantity of public services for them.

b Characteristics of PFI

b-1 Transparency

Transparency is a key element for the Public Sector in selecting a competitive and capable company for a PFI project. In order to achieve transparency, the clarity of a process that a company with the most suitable proposal is selected is critical. The process becomes transparent by announcing officially the criteria of the selection and the reason of the results. Therefore, there is no collusion in PFI. The performance of selected PFI Project Company is also monitored and announced to sustain the project financing. The followings are the mechanisms to maintain transparency.

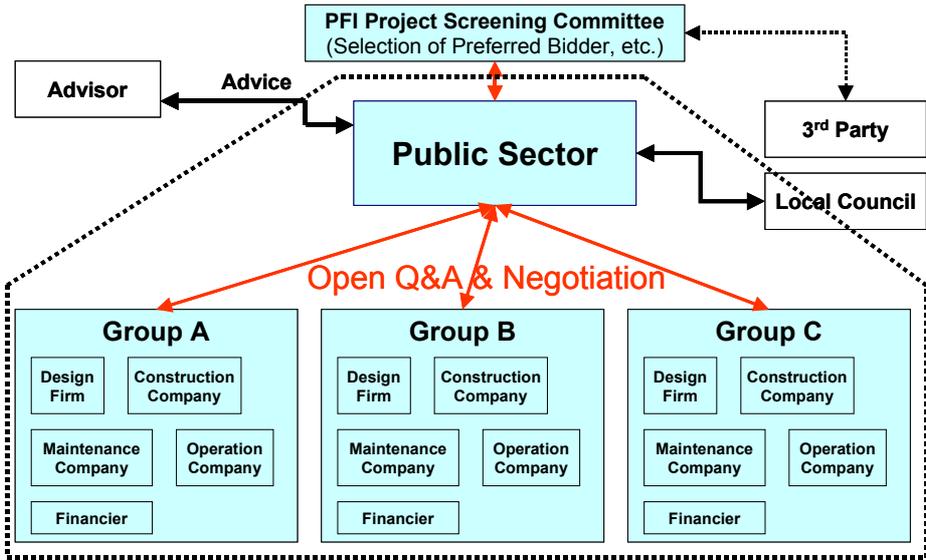
b-1-1 Transparency on Selection of Preferred Bidder (before Contract Sealing)

Process open to the Public

Contract notice, output specification, draft of PFI project contract, questions & answers, criteria and result of assessment and selection of preferred bidders, etc. are officially announced to the public.

PFI Project Screening Committee

PFI Project Screening Committee checks the criteria of the assessment of preferred bidders; reviews the documents such as contract notice, output specification and draft of PFI project contract; conducts the selection. The committee consists of representatives of Public Sector, people of experience or academic standing and residents.



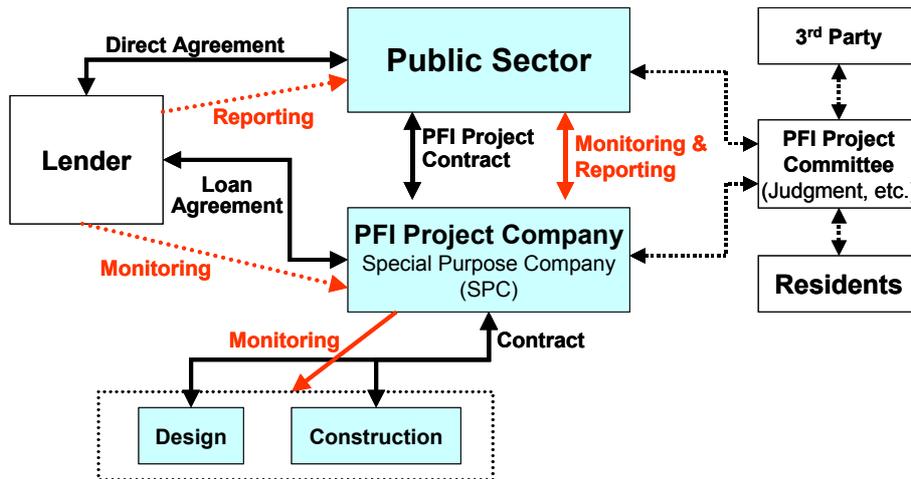
© Japan PFI Association

Figure 1-21 Transparency Before Contract Sealing

b-1-2 Transparency on Project Performance (after Contract Sealing)

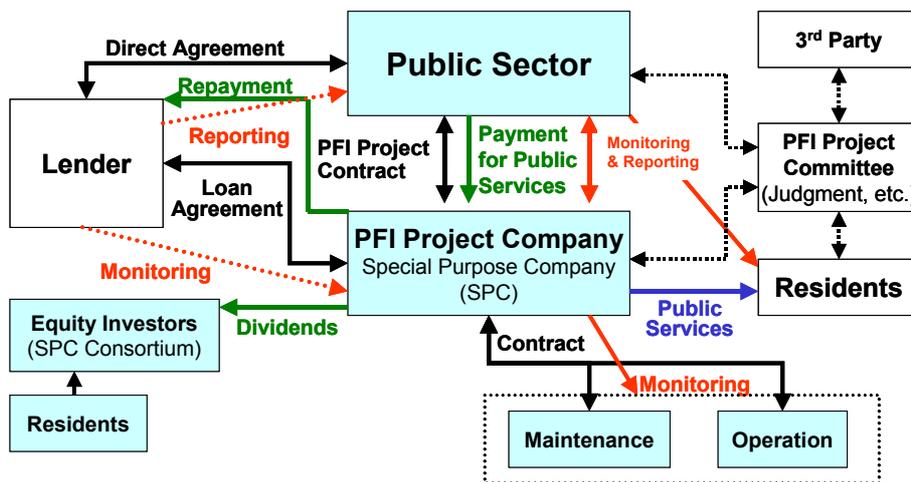
Monitoring System & Payment Mechanism

Performance of PFI Project Company is monitored by Public Sector via monitoring reports from the PFI Project Company; periodical inspections executed by the Public Sector; user interviews. Monitoring the performance periodically sustains transparency.



© Japan PFI Association

Figure 1-22 Monitoring System & Payment Mechanism
(Design and Construction Phase)

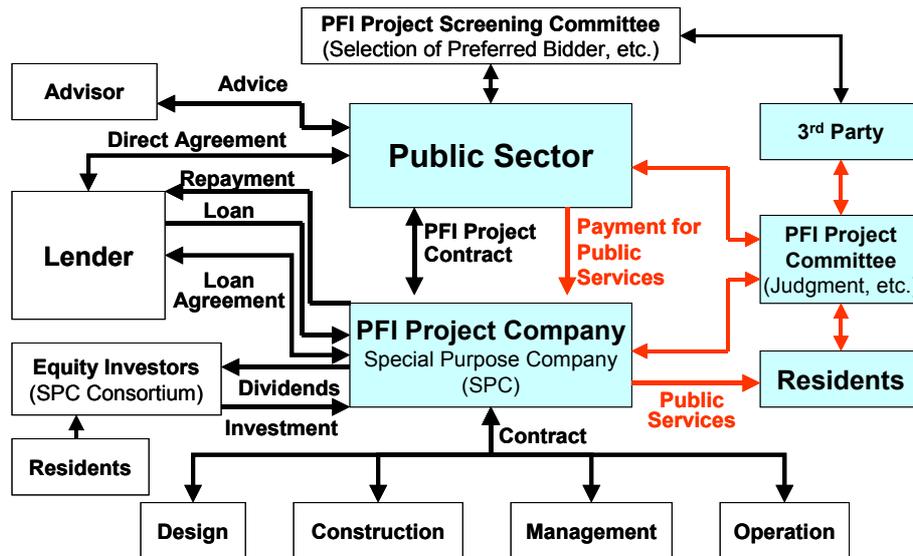


© Japan PFI Association

Figure 1-23 Monitoring System & Payment Mechanism
(Maintenance and Operation Phase)

PFI Project Committee

The major roles of PFI Project Committee are to discuss the issues which are not stipulated in the PFI Project Contract, to assess the value of the asset at the end of the contract and so on. The committee consists of representatives of Public Sector and PFI Project Company, 3rd party and residents.



© Japan PFI Association

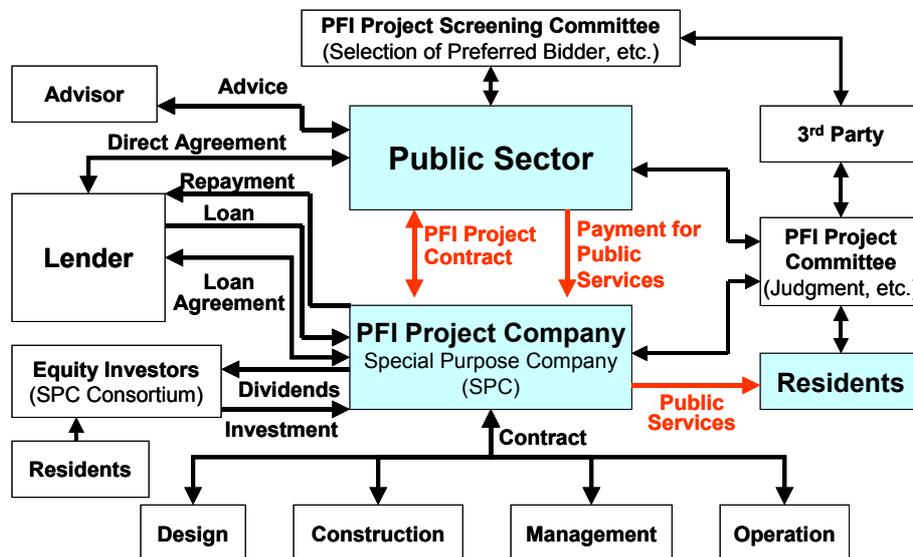
Figure 1-24 PFI Project Committee

b-2 Sustainability

Sustainability is a key element for the public to have the required level of services continuously.

PFI Project Contract

Public Sector and PFI Project Company sign the PFI Project Contract for the supply of public services.

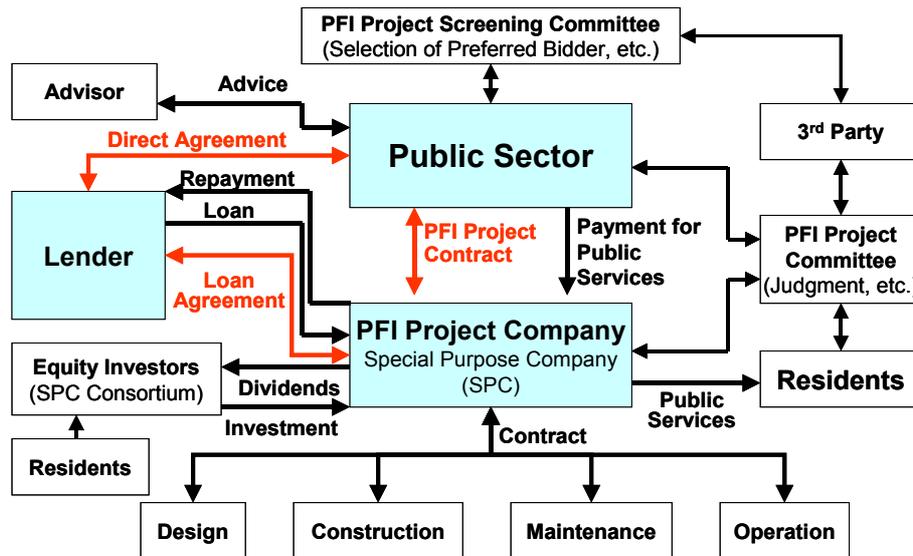


© Japan PFI Association

Figure 1-25 PFI Project Contract

Direct Agreement

Public Sector and Lender sign the Direct Agreement for the establishment and execution of security. It enables mutual reporting and meeting offers between the Public Sector and the Lender for the continuity of the project and so on.



© Japan PFI Association

Figure 1-26 Direct Agreement

Monitoring System & Payment Mechanism

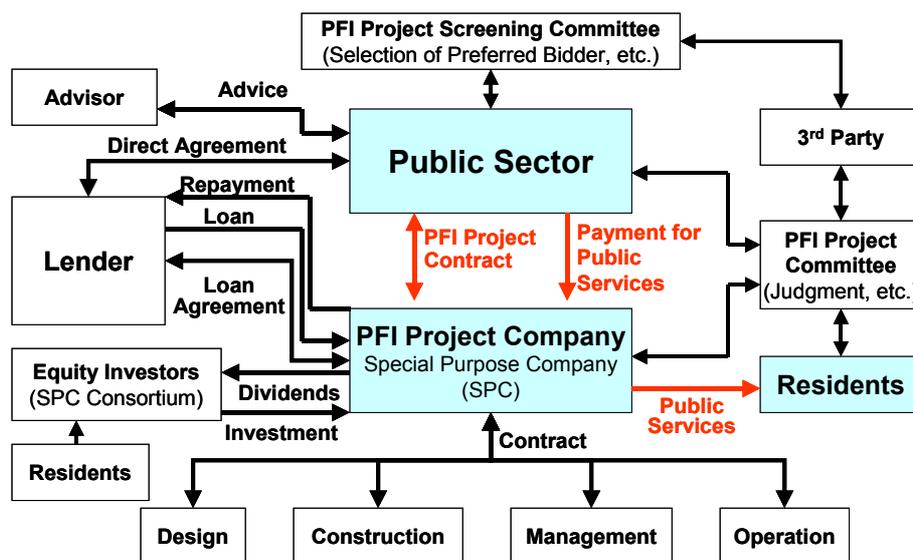
Performance of PFI Project Company is monitored by Public Sector via monitoring reports from the PFI Project Company; periodical inspections executed by the Public Sector; user interviews. In case the performance does not satisfy the required level, the issue is reported to PFI Project Committee to be discussed.

PFI Project Committee

PFI Project Committee makes judgments such as change of contractor and termination of the contract from the performance-monitoring outcome to maintain sustainability.

b-3 Services Sold to the Public Sector (Basic Scheme)

Public Sector executes full payment to PFI Project Company for the consideration of public services over the contract period. The amount of the payment is affected by the service performance of the PFI Project Company and the scheduled amount is to be paid if the performance satisfies the required level.



© Japan PFI Association

Figure 1-27 Services Sold to the Public Sector

c Type of PFI Projects

“Services Sold to the Public Sectors” Type

A scheme that Life Cycle Cost (LCC) shall be fully paid by a relevant government as the consideration of public services over the contract period (basic scheme)

“Joint Ventures” Type

A scheme that LCC shall be partly paid by residents as service fees and partly paid by a relevant government as the consideration of public services over the contract period

“Financially Free-standing” Type

A scheme that LCC shall be fully paid by residents as service fees over the contract period
The basic type of PFI projects is “Services Sold to the Public Sectors” and in Japan, 62% of the 83 PFI projects ongoing apply “Services Sold to the Public Sectors” Type.

d Contract Length of PFI Projects

There is a remarkable change in PFI contract length. The contract lengths of PFI projects announced in 1999-2000 were mainly 25 to 30 years. Recent PFI projects in 2002 have shorter contracts, 15 to 20 years. The reasons are that: first, situations of 25 to 30 years later assumed at contract sealing will be changeable and the change of contracts is not easy; second, lenders of PFI projects are inclined to hesitate long term loans such as 25 to 30 years. The breakdown of contract lengths of 83 PFI projects ongoing is the following:

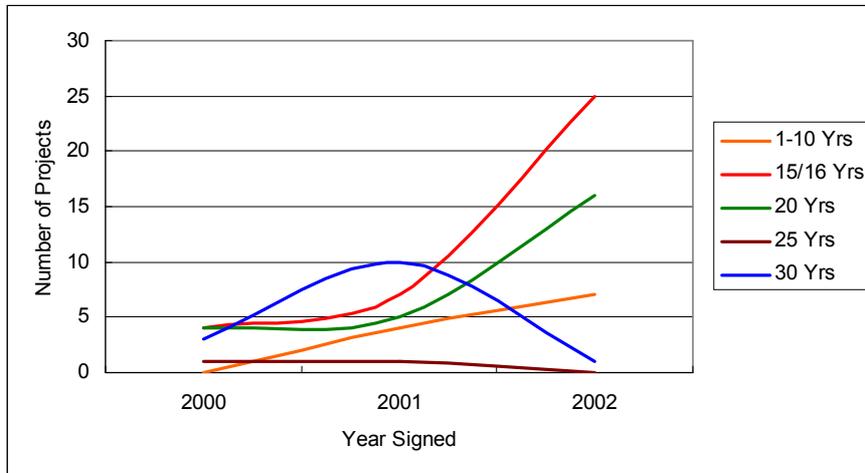


Figure 1-28 Contract Length of PFI Projects in Japan 2000-2002

3 Concession Scheme & Regulatory Framework

(1) Concession Scheme

A contract is to embody agreements of the parties in the form of writings by legal bindings given to the said parties who have different views, understandings and interests. It should be noted that there is a difference of views and/or concepts between Common Law and Civil Law.

We would like to point out that there might be a possibility to cause disputes during the implementation period of the contract because of a mismatch of concepts of laws, that is legal backgrounds of the development of the concession scheme under the civil law and the concept of the contract under the common law.

To prevent said disputes and conflicts to be caused by legal backgrounds, it is strongly suggested that wordings, sentences and stipulations of the contract have to be carefully and prudently finalized upon fully assuming and considering all situations and remedies in detail as possible at the time of the embodying the contract.

It is strongly stressed again that the finalization of the sentences and stipulations of the contract, especially arrangements of tariff structure is a key to successful implementation and continuation of the concession contract.

The concept of the concession and its modifications have been, of course, developed in France, of which jurisprudence has developed and elaborated three core principles of public service law; e.g. continuity of service, equality of users (non-discrimination), and continuing adaptation to circumstances that have been also following the principle of continuity¹⁸. Contracts for the delivery of services to the public (rather than to the public entity) are not subject to the general provisions of the French code of public contracts¹⁹. The principle of ensuring continuity of public services supersedes the principal that a contract is concluded once and for all. Thus if a company is in financial difficulty due to circumstances which could not have been predicted, an extra payment can be claimed, and will be supported in the courts. Circumstances likely to qualify as unforeseen included steep rises in the price of inputs, implications of policy decisions and new international conventions and treaties²⁰.

The underlying objective is to keep the long-term relationship intact so that there is no interruption in the delivery of essential public services. The overarching principle is that many modifications can be made in the contractual terms for one reason or another so long as the concessionaire is appropriately remunerated²¹.

The Concept of the Contract in Common Law

To the contrary, in common law countries, the contract is a legally binding agreement between two or more parties that creates in each party a duty to do²². The interpretation of the intention of the parties at the time they entered into the contract governs and legally binds all

¹⁸ Dr. Tony Balance = Andrew Taylor, *Competition and Economic Regulation in Water, the Future of the European Water Industry*, Milton Keynes, Eng.: S&W Consultants Ltd., Page 85
HD4465.E85 B35 2001 UK (2001)

¹⁹ Ibid.

²⁰ Id. At Page 86

²¹ Id.

²² Dictionary of Law, Merriam-Webster, Incorporated, Springfield, Massachusetts (1996)

duties and performance of the contract throughout the contractual periods²³. Even one side of the contractual party is the public sectors, the contract is considered to be concluded between private individuals at the equal positions. Furthermore, the contract must not be rendered void either by some common law or statutory rule or by some inherent defect, such as operative mistakes²⁴.

(2) Regulatory Framework

The regulatory framework is essential in the concession scheme. Cases in UK and O.S. are shown as follows.

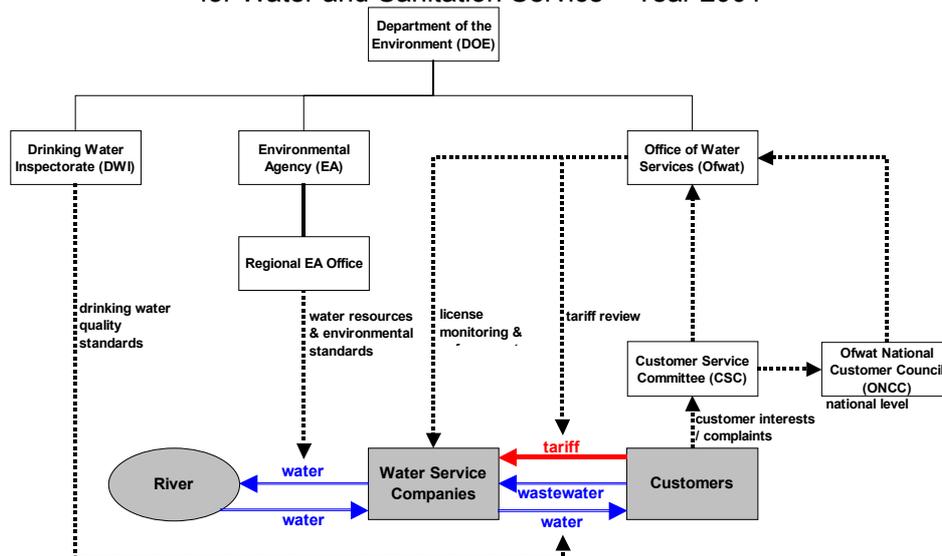
a) England & Wales Case

In 1989, the Government passed legislation that privatized the management of the water and wastewater industry in England and Wales. The reform was measured in terms of improvements to customer services, water quality, and impact on the water environment. The accompanying increase in the level of water tariffs has been more debatable.

Water and wastewater services are provided by 10 private companies, which provide wastewater services to 50 million people and water supply to 40 million. A further 11 million people receive their water supply from 18 water-only companies.

The industry was privatized in its entirety, subject to a comprehensive framework of economic and environmental regulation, which is provided by three national bodies: the Office of Water Services (Ofwat), the Environmental Agency (EA), and the Drinking Water Inspectorate (DWI). It also involves the Customer Service Committees (CSCs) and the Ofwat National Customer Council (ONCC) to protect the interests of customers. Figure 11-1 shows the recent Regulation Framework for Water and Sanitation Services in England & Wales.

Figure 11-1 English and Welsh Regulation Framework for Water and Sanitation Service – Year 2001



a-1 Office of Water Services (Ofwat)

²³ Id. of note 3

²⁴ Dictionary of Law, Oxford University Press (1997)

The Office of Water Services (Ofwat) is a body responsible for the economic regulation of the private companies. It is a non-ministerial government department for which the Director has full responsibility. It is financed by an annual levy on the water companies. The Director is appointed for a fixed term by the Secretary of State for the Department of the Environment and may only be removed for incapacity or misbehavior.

The Director must comply with the statutory duties laid down in the Water Industry Act 1991.

The Director's duties are:

- a) To ensure that the functions of a water and sewerage company are properly carried out
- b) To ensure that companies are able to finance their functions by securing a reasonable rate of return on their capital.
- c) To ensure that no undue preference is shown
- d) To ensure that no undue discrimination in the way companies fix and recover charges
- e) To ensure that rural customers are protected
- f) To encourage companies to operate efficiently for the companies' price limits to contain productivity targets.

The main practical means of the Director are:

- a) The fixing of company tariff levels
- b) The setting of service standards
- c) The measurement of performance
- d) The enforcement of sanctions.

a-2 Environment Agency (EA)

EA was formed in 1996 from the National Rivers Authority and smaller pollution control bodies, undertakes environmental regulation in England and Wales. It has a headquarters, which handles policy issues, and eight regional offices. The agency's duties devolve from the 1995 Environment Act and include responsibility for river basin management, water abstraction licensing, the monitoring and enforcement of effluent discharges, pollution control, and natural water quality.

a-3 Drinking Water Inspectorate (DWI)

DWI is responsible for ensuring that drinking water supplies comply with national standards, which incorporate the requirements laid down in the EU Drinking Water Directive. The DWI can oblige water companies to take remedial measures where water quality fails to meet the standards.

a-4 Tariff Setting

The Director of the Office of Water Services (Ofwat) reviews company price limit every five years. He sets the annual price increase, for each company to reflect what it needs to charge to finance the provision of services to customers. The process for setting company tariff level is based on the price cap form of regulation, which gives companies the incentive to make efficiencies. The formula for calculating a company's future tariff at review is $RPI - P + Q$. RPI represents Retail Price Index. (P) is a projection of productivity that the company should achieve. (Q) is based on the additional cost that the company will face in meeting its future capital investment commitment. Companies that increase efficiency and hence profitability, can share these rewards with shareholders and customers. In making his determinations, the regulator takes a number of factors into account for each company. They include:

- a) performance over the previous period, both financial and operational
- b) forward commitments
- c) asset condition and current investment levels
- d) operating costs
- e) productivity assessments
- f) the cost of capital
- g) acceptable profit margins

In doing this, he makes use of company comparisons to establish industry norms and consults fully with the companies and through the CSCs with customers. There is no overt political involvement in the process.

Ofwat stated in its 1999-2000 Annual Report, "The current price limits, which came into force on April 2000, allow companies to meet all their responsibilities to improve water quality and the environment. Average bills nationally will fall on average by 2.1 per year for the next 5 years in real time."

a-5 Standard Setting

Each year the water and sewerage companies in England & Wales are required to provide Ofwat with information on their performance against various aspects of service, which are:

- a) Inadequate pressure
- b) Supply interruption
- c) Restrictions on use of water
- d) Flooding from sewers
- e) Billing contacts
- f) Written complaints
- g) Bills for metered customers
- h) Ease of telephone contact

In order to provide confidence in this process, Ofwat appoints independent auditors to verify the information and to ensure that it has been collected and compiled in an acceptable manner. Ofwat used the results of analyses for the period 1996 – 1997 to 1998 – 1999 to adjust some company price limits for each of the five years commencing 1 April 2000. These adjustments rewarded the best companies and penalized the worst, thereby marinating incentives for companies to improve services offered to customers.

a-6 Customers' Interests

In England and Wales, customer interests are represented by Customer Service Committees (CSCs) established and maintained by the regulator. The way in which customer representation is integrated within Ofwat is a strength of the regulatory regime in England and Wales. The structure ensures that there is close and regular contact between the regulator and customer representatives.

Customers benefit in a number of ways including:

- a) Complaint handling – the CSCs and Ofwat provide a one-stop service for customers who have a complaint about their water company.
- b) Practice and policy – the CSCs and the regulator working together have developed initiatives to improve company practice.
- c) Setting price limits – customer involvement is an important part of the Periodic

Reviews when new price limits for all water companies are determined.

Customers are also entitled to guaranteed standards of service, as laid down by the Government. Failure to provide them gives automatic rights of compensation, normally £20 occurrence for domestic customers. Ofwat monitors the scheme, recommends changes, and arbitrates in the event of any dispute between customer and company.

a-7 Customer Service Committees (CSCs)

CSCs are established and maintained by the regulator. They are fully independent of the water industry with their own statutory identity and duties to investigate customer complaints and to represent the interests of water customers. CSC chairmen and members are local people, appointed on merit, with a wide range of backgrounds and experience and a shared interest in working on behalf of customers. The CSCs are funded by the regulator and are supported by professional and technical staff from his office.

a-8 Ofwat National Customer Council (ONCC)

ONCC is a representation of customer interests at national level, whose membership consists of the 10 regional CSC chairmen. ONCC provides a forum for the exchange of information between CSCs, organizes national conferences for CSC members, and promotes good communication with Ofwat. ONCC also represents customers' interests directly to the Government and the media.

b) New Jersey (USA) Case

Water and wastewater operations are highly fragmented, with a total of some 55,000 service providers. A large number of these are small, municipally owned supply and distribution systems. It is estimated that the 5% largest networks serve 76% of the US population. Municipal control is norm in the US but there are a large number of private companies who are separately regulated.

Privately owned utility companies are regulated to ensure that their essential services are provided to a safe, adequate, and proper standard. Furthermore, since the service is essential, such utilities are subject to regulation from a price perspective, not least since the fixed nature of utility connection leads to monopolistic providers. Thus, the explicit objective of regulation is to provide the means to substitute for market forces in delivering a quality product at reasonable rates, and also to ensure that social welfare objectives associated with the availability of essential services to all members of the community are met.

Figure 11-2: New Jersey State (US) Regulation Framework for Water and Sanitation Services – Year 2001 (Private Utility Companies)

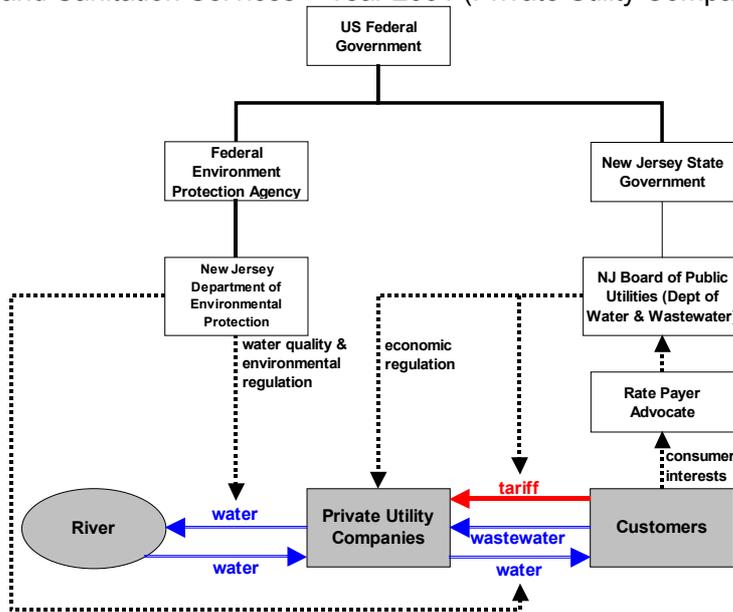
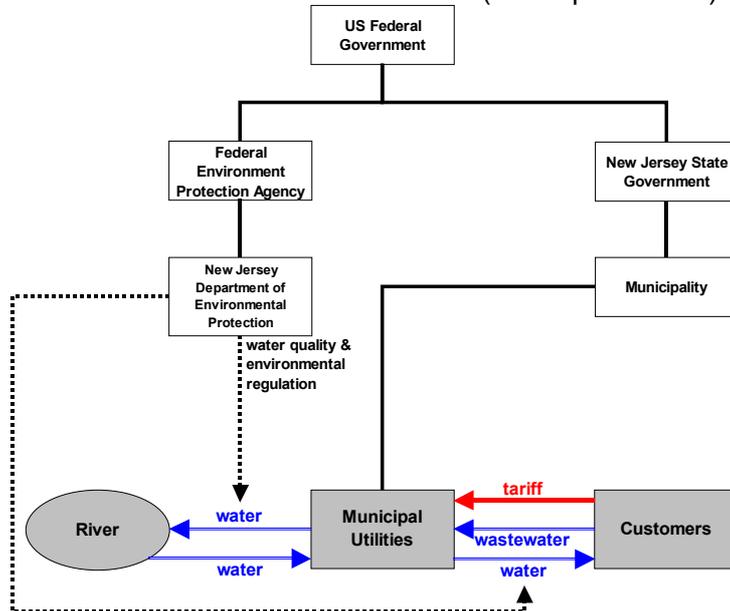


Figure 11-3: New Jersey State (US) Regulation Framework for Water and Sanitation Services – Year 2001 (Municipal Utilities)



a-1 The New Jersey Board of Public Utilities (BPU)

The New Jersey BPU, an autonomous agency within the new state energy department, regulates all investor-owned utilities in the state including telecommunications, electricity, gas, water and wastewater. It does not regulate the services of utility companies only but also their business activities such as acquisitions, privatizations, and long-term operating contracts.

The New Jersey BPU consists of three commissioners who are appointed by the State Governor for staged terms of six years each. The commission is funded by a levy on the utility companies. It publishes reports about all its activities and is designed to be transparent and accountable in its decisions and processes.

The powers of the New Jersey BPU are:

- a) Tariffs
- b) Service standards
- c) Service areas
- d) Accounting
- e) Security
- f) Property
- g) Corporate relations
- h) Procedures
- i) Special responsibilities

a-2 New Jersey (NJ) Department of Environmental Protection

NJ Department of Environmental Protection is a department of the Federal Environmental Protection Agency. Its water department (NJ Water Supply Administration) responsibilities cover the following areas:

- a) To ensure that drinking water supply systems meet the federal and New Jersey Drinking Water Standards
- b) To ensure that surface and underground water diversions do not exceed sustainable yield of available water resources
- c) To protect the ground water resources of the state through proper well drilling activities
- d) To help protect the surface and ground water resources of the state through development and implementation of New Jersey's source water assessment plan
- e) To administer the Drinking Water State Revolving Fund and other funds to finance the costs of drinking water infrastructure improvements needed to achieve and maintain compliance with the Safe Water Drinking Act
- f) To ensure proper construction, operation and management of drinking water supply systems
- g) To help identify water supply needs and issues and develop plans for their resolution
- h) To ensure the proper response to water supply drought emergencies

a-3 Tariffs

Economic regulation as overseen by the BPU is on a cost to serve and rate of return basis. Given the high capital nature of the utility business, customer charges are based on the levels of capital assets necessary to deliver that service. The rate of return is commonly in the region of 10%. The cycle for determining tariff levels revolves around a test period, usually a year. The utility can request to be evaluated for a change in its tariff levels at whatever period it chooses. This is prompted by a need to increase the revenue requirement, commonly caused either by a need to fund major capital investment, or by the rate of return falling below that

determined by the Board. The Board may also ask to review the utility's rates if it feels that an adjustment may be necessary.

In order to ensure that a utility's rates are reasonable, the BPU will apply the following test:

- a) Cost of service
- b) Value of service
- c) Quality of service
- d) Comparison of rates
- e) Competitive service
- f) Economic conditions
- g) History of the company

The general perception in the US is that the regulatory environment has been effective in serving the public interest. However, there is a lack of incentive under this rate of return based approach for companies to increase efficiency. This has led to a cost plus culture, and thus in order to ensure reasonable rates, the regulatory process has become increasingly resource consuming and intrusive.

a-4 Customer Interest

The customers are represented in the tariff determination process by the rate payer advocate whose mandate is to represent the consumer interest. The rate payer advocate is an independent body affiliated to the BPU and is funded by a levy on the utility companies.

Appendix-2

Technical Details of Public Opinion Surveys

(1) Surveys

Both surveys were conducted by:

Social Weather Station, 52 Malingap Street, Quezon City, Philippines

- (a) February 27 - March 9, 1996 - OPINION OF HOUSEHOLDS ON MWSS AND THE PRESENT QUALITY AND COST OF WATER SUPPLY AND SEWERAGE [Project MWSS-RES]
300 respondents (which gives an error margin of +/- 6% at 95% confidence level) from MWSS service area
- (b) March 26 - April 17, 2000 - Filipino Report Card on Pro-Poor Services 174 respondents (which gives an error margin of +/- 7% at 95% confidence level) from National Capital Region

(2) Respondent and Quota

Male and female adults (18 years and over), from the areas covered were interviewed.

(3) Sampling Method

Multi-stage probability sampling was used in the selection of the sample respondents. However, before sampling was implemented, the total number of sample spots * was allocated proportionately (based on 1990 household population) to the cities/municipalities covered by MWSS:

Stage 1. Selection of Sample Precincts / Barangays

In each sample municipality/city, the sample precincts were selected by systematic random sampling, using the latest NSO population figures as the sampling frame.

Stage 2. Selection of Sample Adults

After a random start, 5 sample households were chosen from each sample precinct by interval sampling. In each sample household, 1 sample adult was selected from a list of qualified household members using a probability respondent selection key.

(4) Research Methodology

A. Preparation

A.1 Questionnaire

The definitive language-version of the questionnaire, Tagalog, was translated into English. Then the language translation was translated back to Tagalog by another set of experts to make sure that the messages were conveyed accurately.

A.2 Training

- (a) Training was conducted at the TRENDS-MBL office in Quezon City.
- (b) Training Activities - These mainly consisted of:
 - One day office training to learn the basics of the project.
 - Mock interviews with co-workers to get accustomed to the flow of interviewing and questionnaire format.
 - Practice interviews with a supervisor until the interviewer could be left on her own.
- (c) Evaluation of interviewer's work - The interviewer was left to interview on her own only after she has conducted 3 successive interviews without committing any error in interviewing and recording.

B. Field Work

B.1 Workers on hand

Since TRENDS has a pool of trained interviewers, most of the interviewers assigned to this project are experienced interviewers.

B.2 Supervision

- (a) Supervisors. Supervisors reporting to the field manager monitored the study full-time. They observed interviewers, (at least 10% of total interviewers were observed by supervisors), followed-up and did surprise checks on the field interviewers. They also ensured that field logistics were received promptly and administered properly.
- (b) Spot-checking. Spot-checking was done at various stages of fieldwork. The first one took place after about 30% of interviews were completed. The second spot-checking was conducted after 60% completion and the last one, immediately after 90% completion of interviewing. During spot-checking, at least 20% of the unsupervised interviews were re-interviewed/backchecked. If serious errors persisted, the original interviews were invalidated and respondents re-interviewed. An error was considered serious if dishonesty in recording was apparent or if there were serious misinterpretations of the study such that these resulted in the wrong information. If some questionnaires were found incomplete or had inconsistent answers, the interviewer was asked to go back to the respondent, so that the questionnaire could be completed and corrected.

B.3 Number of Calls

- (a) After each interview, the interviewer was asked to go over her own work to check for consistency of answers.
- (b) All accomplished interview schedules were submitted to the assigned group supervisor who, in turn, edited every questionnaire.
- (c) An office editor conducted a final consistency check on all interviews prior to the coding.

B.4 Field Editing

- (a) After each interview, the interviewer was asked to go over her own work and

- check for consistency.
- (b) All accomplished interview sheets were submitted to the assigned group supervisor who, in turn, edited every interview.

C. Data Processing

- (1) Interview sheets were edited/checked twice by office editors before the information were encoded into diskettes.
- (2) After encoding, data were verified 100%. Consistency checks were done on the encoded data by computers before data tables were generated.
- (3) Tabulation was likewise done by computers.

Appendix-3

Notes of Site visit

The objective of this visit was to see the impact of “Tubig Para Sa Barangay” and “Bayan Tubig” which are the program for the poor people by MWCI and MWSI respectively. We visited four sites, two are under MWCI and two are under MWSI.

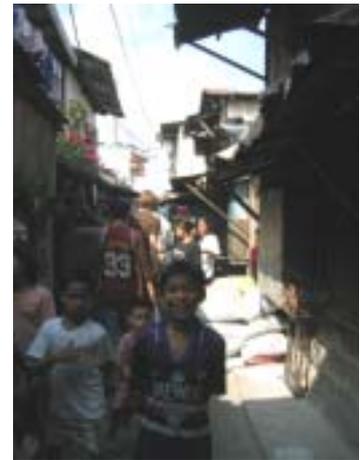
(1) Manggaham East Floodway -- under MWCI

Here each household has an individual connection (they say 95% of total) with 24 hours availability in spite of their slam like housings. In normal home here they have 2 taps in their house. One is in the kitchen and the other is in the toilet.



Each household has its meter and pays tariff according to the meter. MWCI built only the main pipe going through in front of this area and supervised how to connect the pipe to their home.

Before this program, they paid 10 times much money for water.



(2) Planters -- under MWCI

MWCI supplies water in bulk system to this area with 24 hours availability. Only the main pipe and two main meters were built by MWCI. Water tariff is charged through these meters. At the same time MWCI are coordinating with the local community. The local community ‘Planters Water Service’ manages the tariff collection, the meter and pipe installation of each household, and the operation inside. Most of them have individual connection and some of them are sharing the connection. Inside tariff has a commission, which will be used for the local water supply management.



Before the privatization, each household pays around P300 per month only for drinking water.

But now the average is around P200 per month for all the water they use.



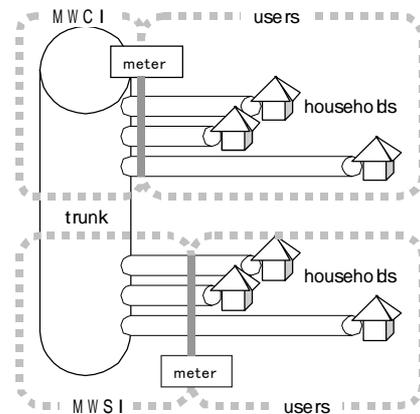
(3) Payatas, Commonwealth -- under MWSI

Here water meters are connected to individual households and each household pays tariff to MWSI. The percentage of individual connection is 60% and 70% in each area respectively. In these areas meters are set closer to each household so that installment of service pipe would be easier (financially and physically) for the consumer. In order to relieve the burden of installation fee, the installment payment for 1.5 year is available.

The service available time is 2-3 hours/day and 4-6 hours/day in each area respectively. Before the house connection they were using the water vendor, which cost 10 times larger. But they don't use the vendor any more.



MWSI provides the on-site registration meeting, which is convenient for the poor people because they are living far away from the MWSI office and cost to go to there will be burden for them.



The differences between 2 concessionaires we saw are following

- MWSI provides the bulk water supply, which supports to make the unity of local community simultaneously.
- Service availability of the area under MWSI is 24 hours.
- MWSI sometimes provides the part of service pipe to each household as well.
- MWSI provides the on-site registration meeting.

The impression after both visits is that MWSI seems to be trying to get closer into the people than MWCI. In the both sites of MWCI, people living there seemed to be quite familiar to the MWCI staffs and we could see even inside the house. But in the MWSI sites we didn't talk with people and the local leader who we were supposed to visit was not home. It could be concluded that the main difference between the two concessionaires is how much they think the community building and its participation are important.

Appendix-4

Financial statement of MWSS, MWCI and MWSI

(1) MWCI

Balance Sheet

Manila Water Company, Inc.

Audited Balance Sheet

Year ending 31 December

(P millions)

	1997	1998	1999	2000	2001
Assets					
Current Assets					
Cash & Equivalents	386	404	695	992	1,185
Receivables	136	181	269	316	450
Materials & Supplies	41	41	30	24	23
Prepayments & Other Current Assets	58	20	29	59	29
Total Current Assets	621	646	1,023	1,391	1,687
Property Plant & Equipment	253	820	1,098	1,341	1,177
Concession Assets	241	504	736	1,081	1,977
Development Costs & Preop. Exp.	373	489	442	429	621
Preoperating Exp.	28	68	26	25	24
Deferred Charges & Other Assets	-	-	17	294	304
Total Fixed Assets	895	1,881	2,319	3,170	4,102
Total Assets	1,516	2,527	3,342	4,561	5,789
Liabilities & Equity					
Current Liabilities					
Accounts Payable	142	195	199	259	323
Current Portion of Long Term Debt	-	-	-	-	259
Total Current Liabilities	142	195	199	259	581
Long-Term Debt	85	125	806	1,849	2,391
Customers' Guarantee & Other Deposits	254	129	157	133	160
Payable to Stockholders		17	71	36	80
Other Liabilities			17	69	91
Total Liabilities	481	466	1,250	2,346	3,304
Stockholders' Equity					
Capital Stock	1,000	2,000	2,000	2,000	2,095
Retained Earnings	35	61	92	215	391
Total Equity	1,035	2,061	2,092	2,215	2,486
Total Liabilities & Equity	1,516	2,527	3,342	4,561	5,789

Income Statement

Manila Water Company, Inc.
Audited Income Statements
Year Ending 31 December (P millions)

	1997	1998	1999	2000	2001
Operating Revenue					
Water Revenue	256	658	858	972	1,180
Interconnection Revenue	96	165	247	215	142
Environmental Charges	25	62	85	97	118
Sewer	13	37	55	60	78
Other	31	67	65	156	140
Total Revenue	421	989	1,310	1,500	1,659
Operating Costs & Expenses					
Salaries & Wages	227	386	446	466	460
Power, Light and Water	55	156	201	231	299
Water Treatment Chemicals	18	43	46	47	47
Management, Technical & Professional Fees	48	121	149	142	162
Regulatory Cost	50	106	116	124	130
Repairs & Maintenance	-	11	30	35	32
Occupancy Cost	20	41	32	24	20
Collectors' Commissions	10	17	16	27	23
Transportation & Travel	-	6	14	18	21
Premium on Performance Bonds	4	15	14	15	15
Business Meetings & Representation	-	11	11	13	14
Vehicle Rental	13	27	12	8	2
Postage, Telephone & Telegram	3	1	6	7	6
Depreciation & Amortization	1	10	85	154	181
Provision for Doubtful Accounts	6	30	15	47	41
Taxes and licences	-	-	-	5	4
Supplies	-	-	-	4	5
Insurance	-	-	-	2	13
Others	4	76	16	8	10
Total Expenses	459	1,057	1,209	1,377	1,483
Net Income (Loss)	(38)	(68)	101	123	176

Percentage Distribution of OPEX

Manila Water Company, Inc.
Percentage Distribution of OPEX

	1997	1998	1999	2000	2001
Operating Costs & Expenses					
Salaries & Wages	49%	37%	37%	34%	31%
Power, Light and Water	12%	15%	17%	17%	20%
Water Treatment Chemicals	4%	4%	4%	3%	3%
Management, Technical & Professional Fees	10%	11%	12%	10%	11%
Regulatory Cost	11%	10%	10%	9%	9%
Repairs & Maintenance	0%	1%	2%	3%	2%
Occupancy Cost	4%	4%	3%	2%	1%
Collectors' Commissions	2%	2%	1%	2%	2%
Transportation & Travel	0%	1%	1%	1%	1%
Premium on Performance Bonds	1%	1%	1%	1%	1%
Business Meetings & Representation	0%	1%	1%	1%	1%
Vehicle Rental	3%	3%	1%	1%	0%
Postage, Telephone & Telegram	1%	0%	0%	1%	0%
Depreciation & Amortization	0%	1%	7%	11%	12%
Provision for Doubtful Accounts	1%	3%	1%	3%	3%
Taxes and licences	0%	0%	0%	0%	0%
Supplies	0%	0%	0%	0%	0%
Insurance	0%	0%	0%	0%	1%
Others	1%	7%	1%	1%	1%
Total Expenses	100%	100%	100%	100%	100%

Percentage Distribution of OPEX (Summary)

Manila Water Company, Inc.
Percentage Distribution of OPEX

	1997	1998	1999	2000	2001
Operating Costs & Expenses					
Salaries & Wages	49%	37%	37%	34%	31%
Power, Light and Water	12%	15%	17%	17%	20%
Water Treatment Chemicals	4%	4%	4%	3%	3%
Management, Technical & Professional Fees	10%	11%	12%	10%	11%
Regulatory Cost	11%	10%	10%	9%	9%
Depreciation & Amortization	0%	1%	7%	11%	12%
Others	13%	22%	14%	15%	14%
Total Expenses	100%	100%	100%	100%	100%

(2) MWSI

Balance Sheet

Maynilad Water Services, Inc.
Audited Balance Sheet
Year ending 31 December
(P millions)

	1997	1998	1999	2000	2001
Assets					
Current Assets					
Cash & Equivalents	578	51	418	281	184
Receivables	266	283	534	601	749
Advances to Contractors	-	-	62	529	504
Materials & Supplies	7	140	127	259	213
Other Current Assets	12	27	82	119	72
Total Current Assets	863	501	1,223	1,789	1,722
Property Plant & Equipment	176	701	1,504	2,724	3,297
Concession Assets	694	2,545	4,005	5,275	6,532
Other Noncurrent Assets	805	1,505	2,418	5,114	7,858
Preoperating Exp.	17	-	-	-	-
Total Fixed Assets	1,692	4,751	7,927	13,113	17,687
Total Assets	2,555	5,252	9,150	14,902	19,409
Liabilities & Equity					
Current Liabilities					
Notes Payable	-	277	3,260	7,824	8,367
Accounts Payable	323	589	830	1,217	4,716
Total Current Liabilities	323	866	4,090	9,041	13,083
Customers' Guarantee & Other Deposits	97	106	135	147	159
Payable to Stockholders and Affiliates	584	1,229	234	415	864
Other Non-Current Liabilities	-	-	-	-	-
Total Liabilities	681	1,335	369	562	1,023
Stockholders' Equity					
Capital Stock	1,500	1,500	1,500	5,240	5,240
Deposit for Future Subscriptions	-	1,500	3,140	6	11
Retained Earnings	51	51	51	51	51
Total Equity	1,551	3,051	4,691	5,297	5,302
Total Liabilities & Equity	2,555	5,252	9,150	14,900	19,408

Schedule of Revenues and Operating Costs and Expenses

Maynilad Water Services, Inc.
Schedule of Revenues and Operating Costs and Expenses
Year Ending 31 December (P millions)

	1997	1998	1999	2000	2001
Operating Revenue					
Water Tariffs	583	1,301	1,811	1,985	2,145
Accelerated EPA	-	-	-	-	217
Environmental Charges	57	127	178	194	209
Sewer Charges	75	164	234	235	245
Other	35	70	156	221	254
Total Revenue	751	1,662	2,379	2,635	3,069
Operating Costs & Expenses					
Salaries	369	796	997	989	908
Amortization of Concession Assets	320	518	518	812	-
Water Purchases from MWCI	82	179	241	213	142
Maintenance & Ops. Exp. ofMWSS	50	106	116	124	130
Contracted Services	35	103	157	211	494
Materials & Supplies	29	102	166	124	128
Guarantee Fees	-	100	99	158	216
Utilities	34	93	113	167	246
Rent	8	38	40	49	42
Foreign Exchange Losses	-	35	60	1,065	47
Amortization of Accelerated EPA	-	-	-	-	216
Provision for Doubtful Accounts	19	31	44	192	5
Write off of Receivables	-	-	119	-	-
Water Service Connection Cost	3	29	-	-	-
Depreciation & Amortization	1	22	78	149	150
Taxes & Licenses	-	-	9	93	39
Performance Bond Premium	4	21	56	99	118
Insurance	2	13	27	16	32
Interest - Net	-	12	218	557	788
Repairs & Maintenance	-	7	4	16	22
Advertising	1	7	5	16	14
Miscellaneous	2	10	11	26	449
Total Expenses	959	2,222	3,078	5,076	4,186
Net Income/(Loss)	(208)	(560)	(699)	(2,441)	(1,117)

Percentage Distribution of OPEX

Maynilad Water Services, Inc.
Percentage Distribution of OPEX

	1997	1998	1999	2000	2001
Operating Costs & Expenses					
Salaries	38%	36%	32%	19%	22%
Amortization of Concession Assets	33%	23%	17%	16%	0%
Water Purchases from MWCI	9%	8%	8%	4%	3%
Maintenance & Ops. Exp. of MWSS	5%	5%	4%	2%	3%
Contracted Services	4%	5%	5%	4%	12%
Materials & Supplies	3%	5%	5%	2%	3%
Guarantee Fees	0%	5%	3%	3%	5%
Utilities	4%	4%	4%	3%	6%
Rent	1%	2%	1%	1%	1%
Foreign Exchange Losses	0%	2%	2%	21%	1%
Amortization of Accelerated EPA	0%	0%	0%	0%	5%
Provision for Doubtful Accounts	2%	1%	1%	4%	0%
Write off of Receivables	0%	0%	4%	0%	0%
Water Service Connection Cost	0%	1%	0%	0%	0%
Depreciation & Amortization	0%	1%	3%	3%	4%
Taxes & Licenses	0%	0%	0%	2%	1%
Performance Bond Premium	0%	1%	2%	2%	3%
Insurance	0%	1%	1%	0%	1%
Interest - Net	0%	1%	7%	11%	19%
Repairs & Maintenance	0%	0%	0%	0%	1%
Advertising	0%	0%	0%	0%	0%
Miscellaneous	0%	0%	0%	1%	11%
Total Expenses	100%	100%	100%	100%	100%

Percentage Distribution of OPEX (Summary)

Maynilad Water Services, Inc.
Percentage Distribution of OPEX

	1997	1998	1999	2000	2001
Operating Costs & Expenses					
Salaries	38%	36%	32%	19%	22%
Amortization of Concession Assets	33%	23%	17%	16%	0%
Water Purchases from MWCI	9%	8%	8%	4%	3%
Maintenance & Ops. Exp. ofMWSS	5%	5%	4%	2%	3%
Contracted Services	4%	5%	5%	4%	12%
Materials & Supplies	3%	5%	5%	2%	3%
Utilities	4%	4%	4%	3%	6%
Depreciation & Amortization	0%	1%	3%	3%	4%
Interest - Net	0%	1%	7%	11%	19%
Others	4%	13%	15%	34%	29%
Total Expenses	100%	100%	100%	100%	100%

(3) MWSS
Income Statement

MWSS Financial Data
Income Statement items
In PhPmn

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Operating Revenues*	3,165	3,496	3,713	3,786	4,489	4,114	212	233	248	2,537
%inc/dec		10%	6%	2%	19%	-8%	-95%	10%	6%	923%
Adjusted Operating Revenues**	3,165	3,496	3,713	3,786	4,489	4,114	2,732	2,650	2,658	2,537
Waterworks Revenues only	2,617	2,901	3,081	3,152	3,735	2,431	-	-	-	-
Concession fees only***						1,063	2,520	2,417	2,410	2,537
%inc/dec							137%	-4%	0%	5%
Total Expenses/	1,759	1,913	2,390	2,652	3,183	2,820	1,530	1,814	1,745	2,522
%inc/dec		9%	25%	11%	20%	-11%	-46%	19%	-4%	45%
Operating Expenses #	1,070	1,217	1,413	1,672	1,954	1,205	178	146	146	642
%inc/dec					17%	-38%	-85%	-18%	0%	340%
Non-operating Expenses^	689	696	977	980	1,228	1,615	1,352	1,668	1,599	1,880
%inc/dec		1%	40%	0%	25%	31%	-16%	23%	-4%	18%
Net income(loss)	1,194	1,122	667	418	166	(2,896)	(1,372)	(1,376)	(1,275)	179
%inc/(dec)		-6%	-41%	-37%	-60%	-1848%	-53%	0%	-7%	-114%
Adjusted Net income(loss)	1,194	1,122	667	418	166	(2,896)	1,148	1,041	1,136	179
Ave. Capital Expenditures	1,484	1,056	824	639	854	856	1,160	1,327	1,604	2,876
%inc/(dec)		-29%	-22%	-22%	34%	0%	35%	14%	21%	79%

Notes:

*Operating Revenues before privatization include items that generate revenues by providing water service. (Revenues from Waterworks, Environmental Charges, Sewerage Works, Maintenance Service, Ayala Sewer and Special charges)
Operating revenues after privatization are only concession fees collected. Rentals from leased properties are included in other income.
1997 revenues include revenues from water operations and concession fees. MWSS was privatized in Aug. 1997.
**Adjusted Operating Revenues include concession fees which were reflected in cash flow from investing activities.
***Concession fees were classified as Debt service and Progress billing from 1998-2000. Data is based on cash flow.

/ Total Expenses include operating and non-operating expenses but excluding interest charges. (Non-opex are actually non-cash charges)

#Operating expenses include only cash expenses.

^Non-operating expenses before privatization include non-cash charges such as depreciation, provision for bad debts, and amortization of cost of water rights and Investigation and Survey.

Loans and Subsidy

MWSS Financial Data

Loans and Subsidy in PhPmn

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Loans Payable- Nat'l Gov't	380	374	379	389	467	635	738	733	894	939
Loans Payable - Domestic	400	357	250	-	40	-	-	-	-	-
Loans Payable- Foreign	6,600	7,590	6,547	6,612	6,641	9,670	9,152	9,908	12,499	14,491
Bonds Payable	1,380	1,315	1,217	1,037	814	585	389	226	99	12
Total Long-term Loans	8,760	9,636	8,393	8,038	7,962	10,890	10,279	10,867	13,493	15,442
Bridge Financing*	-	-	-	-	-	-	-	-	-	1,420
Debt Service - Principal/ Bond Redemption	454	2,029	2,300	2,491	1,104	1,040	2,292	1,904	1,609	1,010
	-	-	-	-	-	196	196	196	135	101
Government Subsidy	79	69	9	4	349	-	-	-	-	-
Government Equity	-	482	199	-	298	41	-	65	19	-
Grant	-	-	25	-	-	-	-	-	-	-
Nat'l gov't net lending		(1)	32	-	-	-	-	-	-	-

Notes:

* Bridge financing are direct loans by MWSS to Banks to cover Maynilad's concession fee payments. (These are short -term loans.)

Maynilad stopped paying its concession fees beginning March 2001.

/Cannot breakdown Debt service as Repayment of ODA loan and Payment to GOP

Adjusted Net Income

MWSS Adjusted Net income in PHPmn

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
REVENUES										
Revenues from concession	-	-	-	-	-	1,063	212	233	248	2,537
Adjustment in concession fees*	-	-	-	-	-	-	2,520	2,417	2,410	-
Waterworks, Environment, Sewerage, Maintenance and Special Charges	3,165	3,496	3,713	3,786	4,489	3,051	-	-	-	-
Total Revenues	3,165	3,496	3,713	3,786	4,489	4,114	2,732	2,650	2,658	2,537
EXPENSES										
Personnel Services	567	689	824	992	1,241	685	73	75	92	107
Bad debts	63	70	74	76	223	275	-	-	-	319
Depreciation	623	623	900	902	1,005	1,339	1,351	1,368	1,331	1,292
Amortization of Water Rights	3	3	3	2	0	1	1	1	1	1
Amortization of Organizational Cost	-	-	-	334	-	-	-	299	268	268
Maintenance and other Opex	504	528	589	346	713	520	105	70	54	535
Total Expenses	1,759	1,913	2,390	2,652	3,183	2,820	1,530	1,814	1,745	2,522
INCOME FROM OPERATIONS	1,406	1,584	1,322	1,134	1,306	1,294	1,202	836	913	15
Add/Subtract										
Interest income (net of tax)	340	270	331	255	224	217	233	172	136	119
Interest expense	(433)	(589)	(682)	(612)	(634)	(898)	(1)	(25)		
Forex gain/(loss)	(199)	(214)	(366)	(444)	(460)	(2,956)	-	3	36	(2)
Rentals from leased properties	0	1	4	4	6	2	2	49	46	43
Other income	80	71	58	82	79	35	9	7	5	4
Other expenses	-	(0)	(0)	(0)	(354)	(590)	(297)	-	-	-
	(212)	(462)	(655)	(715)	(1,141)	(4,190)	(54)	205	223	164
NET INCOME (LOSS)	1,194	1,122	667	418	166	(2,896)	1,148	1,041	1,136	179

* Add back concession fees reflected in cash flow from investing activities.

Appendix-5

List of Reference Materials

1. Asian Development Bank
June 1996
MWSS Operational Strengthening Study Technical Assistance, *Final Report*
Binnie Thames Water in association with TCGI Engineers
2. Asian Development Bank
November 16, 2001
Memorandum of Understanding
Loan Processing Mission
MWSS New Water Source Development – TA Loan
Philippines
3. JICA
November 1995
Study on Water Supply and Sewerage Master Plan of Metro Manila Volumes I-IV
By Nippon Jogesuido Sekkei Co. Ltd. Tohmatsu and Co.
4. JICA
November 2001
The Study on Water Resource Development for Metro Manila in the Republic of the
Philippines, *Interim Report, Volume I, Main Report*
By Nippon Koei Co. Ltd. And NJS Consultants
5. Mark Dumol
July 2000
The Manila Water Concession
A Key Government Official's Diary of the World's Largest Water Privatization
The World Bank
6. Benpres-Lyonnaise Waterworks, Inc.
January 1997
MWSS Privatization
Zone West – Technical Submission
7. MWSS and Benpres-Lyonnaise Waterworks, Inc.
February 21, 1997
Concession Agreement (Service Area West)
8. October 5, 2001
Amendment No.1 to the Concession Agreement
9. Edna and Vladymir Licundini
1988-2000
Social Weather Station Surveybook on Water Services
10. February 27-March 9, 1996
Social Weather Station Survey of Households in the MWSS Service Sector
11. Arlene B. Inocencio and Cristina C. David
August 2001

Public-Private-Community Partnerships in Management and Delivery of Water to Urban Poor: The Case of Metro Manila, *Discussion Paper Series No. 2001-18*

12. JBIC
Angat Water Supply Optimization Project – Distribution Phase, *Final Report*
By Nippon Jogesuido Sekkei Co., Ltd, DCCD Engineering Corp., and Development of Environment Systems, Inc.
13. MWSS
1992-2001
MWSS Financial Statements
14. Manila Water Company, Inc.
1997-2001
Financial Statements
15. Maynilad Water Services, Inc.
1997-2001
Financial Statement
16. MWSS-RO
January 20, 2003
“Presentation to the JBIC Study Team”
17. MWCI Presentation
18. MWSS Regulatory Office Presentation
19. MWSS-RO Flyers
20. Manila Water Company, Inc.
March 2003
Private Solutions for the Urban Poor: Manila Water Company’s “: Tubig Para Sa Barangay”
21. MWSI
July 2000
Policy and Guidelines in Handling Water Service Connection and Application
“Walkin/Regular and Mass Registration”
22. MWSI
January 2003
“Overview of Maynilad Water Services, Inc.”
23. IFC
July 1996
Preliminary Information on Transaction Structure
24. IFC
Information to Bidders
25. The MWSS Board
September 1996

International Finance Corporation, “Preliminary Information for Pre-qualified Bidders: Recommendations

26. Public-Private Infrastructure Advisory Facility and the World Bank
2000
Private Solutions for Infrastructure: Opportunities for the Philippines

27. MWSS
January 1997
Sample Rate Bid for Service Area

28. Benpres-Lyonnaise Waterworks, Inc.
January 1997
“Zone West Technical Submission (Volume 1) – Consortium Strategy”

29. ADB
November 2001
“Memorandum of Understanding with a Loan Processing Mission on the MWSS New Water Source Development TA Loan”

30. The Hudson Institute, by National Association of Water Companies
June, 1999
The NAWC Privatisation Study: A Survey of the Use of Public-Private Partnerships in the Drinking Water Utility Sector

31. Dr. Tony Balance = Andrew Taylor
2001
Competition and Economic Regulation in Water, The Future of the European Water Industry, Milton Keynes, Eng.:
<http://wesley.stanford.edu/library/newtitles/01July.html>
S&W Consultants Ltd.

32. David Hall (University of Greenwich)
2001
Water in Public Hand, Public Sector Water Management – Necessary Option
Public Services International

33. OECD
2000
Global Trends in Urban Water Supply and Waste Water, Financing and management: Changing role for the Public and Private Sectors

34. loi du 29 janvier 1993 relative à la préé la corruption et à la transparence de la vie économique et des procédures publiques

35. Les Modes de Devolution Contractuelle du Service Public
2002.12.20
II - Le Nouveau Regime de la Devolution Contractuelle: La Delegation de Service
Public
<http://www.ifrance.com/spublic/contrat.htm?>
Pierre Manojlovic

36. The World Bank Group

- Concessions -The Way to Privatize Infrastructure Sector Monopolies, Public Policy for the Private Sector,
1995
Pierre Guislain and Michel Kerf
37. Vivendi Environment *Annual Report of 2001*
38. Ondeo Front Page (2002.12.23.)
<http://www.ondeo-is.com/FrontOffice/chart.asp?id=112&id1=0&preview=0>
39. ADB
1997
ADB Second Water Utilities Handbook,
40. Caroline Van Den Berg
1997
Water Privatisation and Regulation in England and Wales, Public Policy for the Private Sector
The World Bank Group
41. Merriam-Webster
1996
Dictionary of Law
42. Oxford University Press
1997
Dictionary of Law
43. Rover Cooter = Thomas Ulen
1997
Law and Economics (Second Edition)
Addison-Wesley Educational Publishers Inc
44. United Nations homepage
<http://www.un.org/millenniumgoals/index.html>
45. Japan Bank for International Cooperation homepage
<http://www.jbic.go.jp/english/profile/about/organize/index.php>
46. Lopez Memorial Museum homepage
http://www.lopezmuseum.org.ph/elf_museum.html
47. Ayala Museum homepage
<http://www.ayalamuseum.com>
48. ONDEO Home Page
(2002.12.22)
http://www.ondeo.com/index2_eng.html
49. RWE Home Page
(2002.12.22.)
<http://www.rwe.com/en/index.jsp?bhcp=1>
50. Thames Water Home Page

(2002.12.22.)
<http://www.thames-water.com/>

51. Kishore Mahbubani
2001
Can Asians Think?
Toronto: Key Porter Books
52. HABITAT
2001
“Cities in a Globalizing World: Global Report on Human Settlements 2001”
London and Sterling Earthscan Publications
53. F. Landa Jocano
2002
“Filipino Value System – A Cultural Definition”
Punlad Research House
54. Franklin Drilon
1984
“The Employer’s View”
Proceedings of National Tripartite Seminar Workshop on Industrial Relations
55. F. Landa Jocano
1999
“Towards Developing a Filipino Corporate Culture – Uses of Filipino Traditional Structures and Values in Modern Management”
Punlad Research House
56. F. Landa Jocano,
1975
“Slum as a Way of Life: A Study of Coping Behaviour in Urban Environment”
University of Philippine Press
57. Frank Lynch
1973
”Social Acceptance Reconsidered: In Four Readings of Filipino Values,”
Ateneo de Manila University Press
58. Robert J. Mortais
1981
“Social Relations in a Philippine Town”
Northern Illinois University Center for South Asian Studies
59. UPecon Foundation
December 2002
“Metropolitan Waterworks and Sewerage System Regulatory Office Rate Rebasing Exercise” (*Final Report*)
60. Rivera, Virgilio C Jr.
September 2002
“Restructuring, Regulation, Price Setting and Serving the Urban Poor: the Case of Manila Water Company under the MWSS Privatization”

61. Philippine Daily Inquirer
December 10, 2002
“Maynilad seeks end to water contract”, p. A-18
62. Philippine Daily Inquirer
December 10, 2003
Statement of Rafel Alunan, MWSI President, quoted in the article “Maynilad seeks end to water contract”, p. A-18
63. Philippine Daily Inquirer
December 11, 2003
“Bishop scores Lopezzes for ‘corporate agree’”, pp A-1 and A-4.
64. Philippine Daily Inquirer
December 12, 2003
Labor group leader asserts that MWSI paid some P1.2 billion for foreign consultants. Quoted in the news article “Alunan: We no longer have answers to save Maynilad”, headline.
65. Philippine Daily Inquirer
December 17, 2002
“Why Maynilad is losing money”.
Letters to the Editor, p A10.
66. Manila Standard
April 10, 2003
“IFC, Ondeo want to take over Maynilad”
67. Philippine Daily Inquirer
May 7, 2003
“Maynilad asked to post bond, not cash”, p A3