Table 4.2.3 MWSS Facilities and Major Equipment

Facilities	Major Equipment	Dept. or Division Responsible
Raw Water Intake Facilities	Dams, Intake Towers, Screens, Gates, Valves, etc.	Water Sources Division
Raw Water Conveyance Facilities	Aqueduct, Headworks, Screens, Gates, Valves, etc.	Water Sources Division
Water Treatment Facilities	Flush Mixers, Flocculators, Filters, Chemical (Alum, Polymer) Dose Facilities, Chlorination Facilities (Chlorinators, Weighing Scale, Chlorine Cylinders), etc.	Balara Treatment Plant Division La Mesa Treatment Plant Division
Transmission Facilities	Pumping Stations, Deep Wells, Reservoirs, Flow Measuring Facilities, Distribution Piping Network (Trunk Mains, Secondary Mains, Tertiary Pipe), Valves, Fire Hydrants, etc.	Pumping Plants Division Service Centers of Sectors

b) Sewerage System

The Sewerage System Dept. (SSD) is responsible for the operation and maintenance of the sewer system, sewer connection and extension, and septic tank maintenance. SSD consists of three divisions namely, Operations and Maintenance Division (OMD), Sewer Connection, Extension and Field Investigation Division (SCEFID), and Septic Tank Maintenance Division.

2.3.5 Logistics

(1) Procurement

a) Legal Bases

Procurement activities of MWSS are strictly controlled by the COA General Accounting and Auditing Procedures and regulated by various laws on public bidding and government contracts. The policies and procedures of the procurement established in MWSS are based on the Presidential Decrees, Letter of Instructions, Executive Orders, COA Rules and Regulations, MWSS Board Resolutions, Office Orders, and Memorandum Circulars and similar issuance from other offices

and agencies that directly and indirectly affect the procurement system of MWSS. Major laws and regulations directly related to the procurement activities of MWSS are as follows:

- Philippine Flag Law (Commonwealth Act No.138): Stipulates that native products and domestic entities are given the preference in the purchase of articles for the government
- Executive Order 301: Guidelines on negotiated purchase as an exception to public bidding and government contracts.

b) Mode of Procurement

As a general rule, any procurement must be made through public bidding. However, in some cases, supplies may be procured without the virtue of public bidding. Currently, other three modes of procurement are allowed by Executive Order and Office Circulars. The following describes the four types of procurement modes currently followed by MWSS:

- **Public Bidding:** As provided by law, the procurement of supplies shall be made through competitive public bidding.
- **Modified Public Bidding:** The modified public bidding is used instead of public bidding as provided for by E.O. 301 Section 1 to facilitate requisition of supplies. This mode of procurement is allowed when the supplies are urgently needed to meet an emergency which may involve the loss of or danger to life and/or property or when the supplies are to be used in connection with a project or activity which cannot be delayed without being detrimental to the public service. The modified public bidding requires approval by the Administrator.
- **Negotiated Purchase:** The negotiated purchase or direct order is resorted to for any of the following reasons:
  1. Non-competitive nature such as when the item is sold by a sole or exclusive dealer
  2. Public bidding would be impractical, e.g., procurement abroad
  3. Procurement is through government agencies including government owned or controlled corporations
  4. Negotiation of the letter order or contract authorized by law or covered by executive agreement
  5. Government-to-government basis where objects of procurement are for expert or technical services

This mode of procurement is also used after public bidding is unsuccessful two consecutive times or when requisition through negotiated purchase is most advantageous to MWSS. At the discretion of the Administrator, it is used when it is most advantageous to MWSS, subject to the approval of the Board of Trustees, and if the amount involved is under P500,000. This procurement method requires that at least quotations from three suppliers be secured.

- **Emergency Purchase:** It is resorted to under the following conditions and upon justification by the DA concerned and the approval by the Administrator:

  1. Exceptionally urgent or absolutely indispensable to meet an emergency caused by force majeure such as typhoons, floods, earthquakes or other natural calamities
  2. Supplies to be procured are not available or the stock in the Warehouse Services Division is insufficient.
  3. The price offered is the lowest obtainable in the market.
  4. After a canvass of at least three suppliers.

c) Procurement Procedure

General policies and standard procedures of procurement for supplies are explained in detail in the MWSS Procurement System and Procedures Manual, recently updated by the Procurement Department. The procurement of supplies is centralized in MWSS, and the Procurement Department is responsible for all purchases of supplies, materials, tools and equipment for MWSS.

d) Purchase by Cash Advances

Cash advances are provided for payments in small amounts from the petty cash fund maintained on the imprest system. There are two types of cash advances, namely regular and special.

Regular advances are those granted to cashiers, disbursing officers, paymasters, and/or property/supply officers individually, while special ones are those granted on the explicit authority of the Administrator only to duly designated disbursing officers or employees for other legally authorized purposes.

In MWSS, supply materials and parts are often purchased in small quantities through either type of advance established at each operating unit to bypass complex and lengthy procurement procedures.

e) Delayed Delivery of Supplies

According to the Corporate Performance Report for the quarter ended 30 June, 1994, the Procurement Department received 174 requisition orders during the second quarter covering April to June, 1994, and only 42 of them were delivered. The following discusses the various modes of procurement and the average duration from RO preparation by the end user to the actual delivery by the supplier.

- Government Entity: The average duration for the procurement of items from government entities for the second quarter of 1994 was 68 days. Two activities, from release of LO to delivery of the items and from RO preparation to receipt by the Procurement Department, required the longest time; this was an average of 31 and 18 days, respectively, out of a total of 68 days or 72% of the whole procurement procedure. The items contained in 5 RO's included diesel fuel and gasoline which were procured from Petron Corporation, a government owned corporation.
- Modified Public Bidding: The average duration to procure items from 2 RO's through modified public bidding for the second quarter of 1994 was 221 days or more than 7 months. The longest time incurred was the process from RO preparation to receipt by the Procurement Department which took an average of 70 days or about 31% of the whole procurement process. The second longest time incurred was the process from receipt by the Procurement Department to bidding which took an average of 52 days or about 23% of the entire process.
- Public Bidding: The total average duration for the procurement of items requested in 32 RO's through public bidding for the second quarter of 1994 was 452 days or about 15 months. The longest was from release of LO to delivery of the item which took an average of 145 days or about 32% of the whole process. The second longest was from bidding evaluation to awarding which took an average of 132 days or about 29% of the whole process.
- Exclusive Distributor: Procurement from exclusive distributors or negotiated purchase for items requested in 3 RO's for the second quarter of 1994 took an average of 119 days. The longest time was from RO preparation to receipt by Procurement Department, an

average of 50 days or about 42% of the whole process. The second longest was from the receipt by the Procurement Department to the preparation of LO, 39 days or about 32% of the whole process.

f) Lawsuits against MWSS

Public bidding sometimes results in lawsuits against MWSS due to political intervention, dissatisfaction on the bidding results by losing bidders and other reasons. When in the construction area they cause serious delay of construction projects. At present, for example, MWSS has several lawsuits from the following parties:

- Pipe manufacturer and supplier
- Security service company
- Janitorial service company
- Desludging contractor
- Air-conditioner and airduct contractor, etc.

(2) Asset Management

a) Warehouse/Stockyard/Stockroom Locations

Supply materials and parts are mainly kept in the main warehouse in Balara and auxiliary warehouses located in other places. A small number and quantity of supply materials and parts are also kept in satellite warehouses at various locations in operations and customer service areas.

Main and Auxiliary Warehouses/Stockyards: The main warehouse is located in the Balara Complex, and five auxiliary warehouses and stockyards are located in the following places:

- Central Warehouse (Balara): Construction materials, office supplies, fuel, auto spare parts, uniforms, water meters, chemicals, etc.
- Arroceros Warehouse (Ermita): Supply materials and parts for day-to-day repair and maintenance works
- San Juan Stockyard (San Juan): Supply pipes, materials and parts for repair and maintenance for waterworks and sewerage system, excess materials and pipes of construction projects

- Socca Bonna Warehouse and Stockyard (Socca Bonna): Supply pipes, materials and parts for repair and maintenance for waterworks and the sewerage system, excess materials and pipes of construction projects
- Balara Warehouse/Treatment Plant (Balara): Chemicals
- La Mesa Warehouse / Treatment Plant (La Mesa): Chemicals

Service Centers in Customer Service: Each sector of the Customer Service Area (CSA) also has its own satellite warehouse for day-to-day repair and connection services conducted by a Service Center. Each satellite warehouse of the Service Center maintains approximately 50 stock items such as water pipes (between 25 mm and 50 mm), water meters (approximately 1,000 pieces) and various parts in quantities of two weeks to one month consumption. Replenishments of inventory at satellite warehouses are made through the main warehouses from time to time when items are completely out of stock; this takes only one or two days, if the Central Warehouse carries the inventory. According to the interview by the Study Team, perpetual inventory records are kept only for water meters, while for other stock items they are not kept at the Service Center of the North Sector. Physical inventory is taken once a year at the satellite warehouses.

Under Memorandum Circular No. 012, issued in December 1994, stipulating a centralization of warehouses, the satellite warehouses of the five sectors have been transferred to the Warehouse Service Division based on the Memorandum of Agreement between the sectors and WSD.

Central Maintenance Department: It owns the following warehouses and stockrooms that keep supply materials and parts for day-to-day repair and maintenance works. Replenishments of inventory for stock and non-stock items are requested when items are out-of-stock. Perpetual inventory records are not kept in the warehouses or stockrooms. Physical inventory is once a year.

Table 4.2.4 List of Satellite Warehouses/Stockrooms

Satellite Warehouse/ Stockroom	Location	Office Controlling
Machine Shop	Balara Complex	General Control & Repair Division
Motor Pool Building	Balara Complex	Transportation & Heavy Equipment Div.
Water Meter Building	Balara	Water Meter & Maintenance Division
IRCD Shop	MWSS Building	Instrumentation & Remote Control Division
IRCD Shop	Balara Filtration Plant	Instrumentation & Remote Control Division
TPMES Shop	Balara Filtration Plant	General Control & Repair Division

Water Distribution and Maintenance Department: The following Divisions of the Water Distribution and Maintenance Department own their own stockrooms where they store small amounts of supply materials and parts required for minor repair in an emergency:

- Pumping Plants Division
- Hydraulic Surveys & Analysis Division
- Water Mains Maintenance Section
- Valves and Hydrants Section.

Chemicals Used in Filtration Plants: Chemicals, such as polymer, aluminum and chlorine used in the Treatment Plants in Balara and La Mesa, are procured by the Chemical Treatment Sections of treatment plants and are stored at the auxiliary warehouses or tanks managed by these sections. According to results of the Study Team's interview at La Mesa Treatment Plant, two months consumption of chemicals are kept at the stockroom and replenishment of those items is made twice a month directly by suppliers. WSD is responsible for delivery control and receipts of chemicals at plants.

b) Inventory Levels by Location and Category

The following table shows inventory levels by location and category as of December 1994:

Table 4.2.5 Inventory Items and Value by Location/Category (Unit: Thousand Pesos)

	Central Warehouse		Arroceros		San Juan	
Category	Items	Peso Value	Items	Peso Value	Items	Peso Value
Const. Material	459	16,280	114	25,000	763	25,563
Office Supply	323	4,895	-	-	-	-
Fuel	2	N.A.	-	-	-	-
Spare Parts	799	3,547	-	-	-	-
Uniforms	3	403	-	-	-	-
Water Meters	7	17,678	-	-	-	-
Chemicals Balara	5*1	6,212*2	-	-	-	-
La Mesa	-	6,701*3	-	-	-	-
Consumable Mat.	154	3,015	-	-	-	-
Total	1747	58,331	114	25,000	763	25,563

Source: Monthly Stock Level Reports as of 31 December, 1994
Note: *1. Number of classification
*2. Monthly Stock Status Report as of October 1994
*3. Monthly Stock Status Report as of June 1994

Construction materials for foreign assisted projects are kept in the following warehouses and stockyards:

Table 4.2.6 Materials Used for Foreign Assisted Projects (Unit: Thousand Pesos)

FAP Status	Location	No. of Items	Peso Value	Remarks
Ongoing	Arroceros	202	960	As of Nov. 30, 1994
Ongoing	Caloocan	48	258	As of Nov. 30, 1994
Ongoing	D. Tuazon	116	886	As of Sept. 30, 1994
Ongoing	Balara Central	396	31,145	As of Oct. 31, 1994
Rehab-I Excess Mat.	Socea Bonna	376	84,121	As of Oct. 31, 1994
MWSP-II Excess Mat.	Socea Bonna	1,024	10,453	As of Oct. 31, 1994
	Total	2,162	117,372	

Source: Stock Status Reports at WSD

c) Major Policies and Procedures

Major policies for inventory control are as follows:

- The Budget Management Department determines whether an item is a stock or non-stock item based on the recommendation by PMD.

- Tools and equipment such as hammers, shovels, jackhammers, compressors, etc. are categorized as non-stock items except pipe drilling machines which require a strict control by MWSS.
- Stock items are classified based on the consumption rate into fast moving, slow moving and non-moving items. Fast moving items require six months consumption of stock and slow moving items 6 to 24 months consumption.
- Out-of- or short-of-stock items are replenished from time to time based on a quarterly procurement schedule of the Annual Procurement Program and Requisition Orders prepared by PMD on a quarterly basis, while replenishment of stock items at satellite warehouses or stockrooms are made through the Central Warehouse with a requisition request.
- Requisition Orders (Ros) for non-stock items are prepared by end users.
- Maximum and minimum stock levels, reorder points, lead time and average monthly consumption are established for each stock item by WSD. Currently reorder points for stock items are set at 70% of remaining quantity on-hand to the inventory on-hand after last purchase and receipt of the item was made.
- PMD is allowed P20,000 per purchase and a maximum cash advance fund of P50,000.
- Unserviceable materials and equipment are returned to PMD for disposal. Spare parts replaced are also returned to PMD.
- Inventory valuation is made on the first-in first-out basis using the acquisition cost data on the stock card.

2.3.6 Customer Service

(1) Customers

a) Classification

Customers are grouped by size and by economic activities. The former is for the purpose of assigning a party responsible for the service. There is a Big Customer branch which handles those customers who are regularly charged P1,000 a month or more, a Government branch in charge of various government customers and other twenty-one regular branches for all the rest. The latter is for the purpose of applying the tariff. Customers are divided into residential, commercial and industrial.

b) Number

The number of customers has changed as follows in the past five years:

Service	1990	1991	1992	1993	1994
Water	667,818	709,767	746,051	788,423	816,935
Sewer	89,740	91,140	92,695	90,015	91,159
Total	757,558	800,907	838,746	878,438	908,094

It should be noted that the number of water customers was increasing steadily but has slowed down in recent years. On the other hand, the number of sewer customers has been more or less static.

The majority are residential, but the business customers (commercial and industrial) consume about 40 percent of the total water volume.

(2) Sectors and Branches

Customer services are provided through one of eight sectors and one of twenty-three branches. Eight sectors have been established mainly based upon the hydraulic layout of pipes. They differ considerably in terms of the number of customers and the volume of water distributed and billed. They are summarized as follows:

Table 4.2.7 Overview of Sectors

Sector	# of Connections	Water distributed	Water billed	NRW Rate
West	200,545	867,184	328,320	62.1%
Central	137,173	501,682	271,048	46.0%
Southwest	93,279	307,904	167,980	45.4%
Southeast	78,299	276,444	147,102	46.8%
East	89,585	277,825	114,833	58.7%
Northwest	81,603	228,454	71,281	68.8%
North	50,241	138,337	59,079	57.3%
South	26,431	31,427	22,718	27.7%
Total	757,156	2,629,257	1,182,361	55.0%

Source: Customer Service Area

Each sector has two to four branches beneath it, and they are the physical interface with customers. They accept service applications, deliver and collect bills, disconnect and reconnect delinquent customers and attend to complaints.

(3) Application Processing

The applications for new service connections are processed in the following steps:

1. Receipt of an application at a branch office
2. Securing a road excavation permit either by MWSS or an applicant
3. Field investigation, cost estimation and receipt of a deposit by a branch office
4. Water service connection installation by an accredited plumbing contractor and a Service Center (Sector)
5. Settlement of installation charges and customer registration

The responsibility of MWSS ends at the water meter which is typically installed at the boundary of private premise and the public space, and MWSS has nothing to do with the piping in the private premise.

(4) Meter Reading, Billing and Collection

Every month, water meters installed at the customers' sites are read, bills are issued based upon the meter reading and the service charges are collected.

The water meters are read by a section in the Sectors using a Rover 1000 meter reading machine. Before reading the meters, basic information on customers is downloaded from the mainframe at the Computer Service Center. The Rover machines have been used based upon the favorable results experienced by MERALCO.

The meter data is transferred back to the mainframe, and a hard copy of the daily readings is forwarded to the Sectors, where MWSS analysts review monthly consumption, note any discrepancies and initiate investigations as appropriate. The coverage of such investigations appears to be 10 to 15 percent of all readings. Where there is a missing or damaged meter then consumption is estimated based on the charge of the previous three to six months' consumption.

After data is reviewed and necessary corrections are made, bills are printed at the Computer Service Center and delivered every day to the Branches.

Bills are delivered to customers by contract collectors every month except for big and government customers for which MWSS's own employees are used. Customers are requested to pay the bill as it is presented. If not present, the customer statement is then left at the door for the customer's visit to the branch for payment. In reality, customers usually opt for a re-visit by the collector later in the month or the next month, because lack of payments up to three months do not trigger the disconnection of the service. The collection efficiency has recently been around 95 percent.

Contract collectors are paid a fixed commission for bills collected and are bonded to prevent them from running away with collected funds.

(5) Sectoralization

The Sectoralization Scheme started in January 1994, with the approval of the Board of Trustees, in order to reduce the NRW level and improve customer services by giving more authority and responsibilities to the operating units which are close to the distribution pipes and the customers. Following the Board resolution, a detailed Sectoralization Scheme was prepared and proposed to the Board for approval in July 1994. Under the Sectoralization Scheme, eight sectors were created from the existing five sectors according to the sector boundaries based on the hydraulic layout of pipes and metering activity undertaken by the Telemetry Project. Highlights of the Sectoralization Scheme are as follows:

- For planning, control and supervision purposes, the eight sectors shall be grouped into two, each with a Deputy Administrator (DA)
- Sole responsibility of the Sector for leak repair
- Expansion of the Service Center into four sections to take on metering activity and to address problems related to unauthorized use of water
- Upgrading meter shops and expansion to ad hoc departments
- Creation of an Operations Center under the Systems Operations Department (Operations Area) responsible for daily monitoring of water production and distribution activities of the pumping stations

- Creation of Transportation Management Section under the Central Maintenance Department
- Privatization of one sector as a pilot exercise to provide competition for other sectors

Although the Sectoralization Scheme has been in existence quite some time, the re-arrangement of responsibilities especially between the Operation Area and the Customer Service Area has not been completed yet. Consequently, it has not been proposed to the DBM which would approve such a drastic organizational change. As such, all the changes made so far in relation to the scheme, particularly the personnel shifted from the Construction Area to the Customer service Area, are tentative, which is presumably hindering the maximum benefit of the scheme from materializing.

2.3.7 Human Resources

(1) Administration

There are two units in the government organization having authority for employment and human resource development. One is the Civil Service Commission (CSC) and the other is the Department of Budget and Management (DBM). The Civil Service Commission, as the central personnel agency of the Government, establishes a career service, adopts measures to promote moral, efficiency, integrity, responsiveness and courtesy in the civil service, strengthens the merit and rewards system, integrates all human resources development programs for all levels and ranks, and institutionalizes a management climate conducive to public accountability. The DBM manages the capacity of employment from the budgetary point of view. MWSS should submit to the DBM through CPCB copies of Plantilla of positions in accordance with the organization structure/staffing pattern approved for MWSS by the DBM.

As a government owned and controlled corporation, employees of MWSS hold the same status as government employees and are heavily regulated by the CSC and the DBM with various laws, rules and standards on personal administration such as hiring, appointment, salary scheme, welfare, performance review, training, etc.

(2) Employment

MWSS employs approximately 7,800 people consisting of regular and casual employees. Since 1992, there is no increment in terms of number of employees due to the enactment of the Attrition Law (Act No. 7430) that no appointment should be made to fill vacant positions for five years. Therefore, MWSS must continue operations with the current number of officers and employees until 1997. At present, the employees are categorized into the following three groups based on their employment status:

- Regular employees - hold permanent employment status until achieving age 65
- Casual employees - Continuation of employment will be determined every half a year
- Contract workers - Hiring period and compensation are determined by the individual contract.

a) Number of Employees

The total number of employees (regular plus casual) was 7,796 at the end of 1994. The regular employees account for 60%, and the casual for 40%. In addition to these, MWSS hires contract base workers, such as collectors and bookkeepers.

Table 4.2.8 Number of Employees as of December 1994

	Regular			Casual			Total		
Area	Autho-rized	Actual	Vacant	Autho-rized	Actual	Vacant	Autho-rized	Actual	Vacant
Corporate Staff	308	229	79	16	13	3	324	242	82
Engineering	350	264	86	538	280	258	888	544	344
Construction	216	187	29	3,602	1,839	1,763	3,818	2,026	1,792
Operations	2,204	1,557	647	374	238	136	2,578	1,795	783
Customer Service	2,133	1,676	457	915	737	178	3,048	2,413	635
Finance	503	401	102	61	52	9	564	453	111
Administration	419	302	117	73	21	52	492	323	169
Total	6,133	4,616	1,517	5,579	3,180	2,399	11,712	7,796	3,916

The following chart represents the composition of regular and casual employees by functional area:

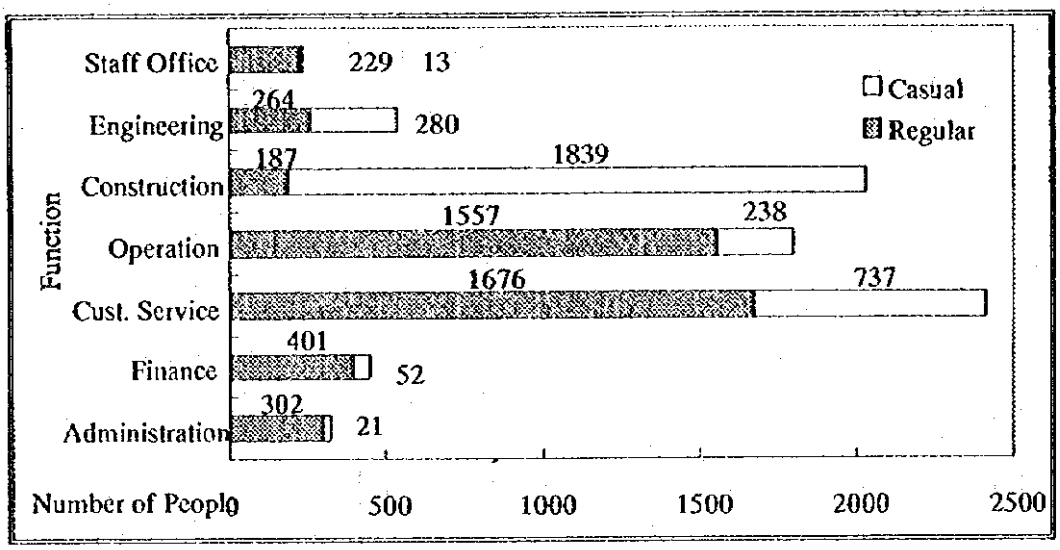

Figure 4.2.2 Number of Employees as of 31 December, 1994

The composition of regular employees by age and sex is as indicated in the following graphic. Regular employees between thirty to forty-five compose a majority.

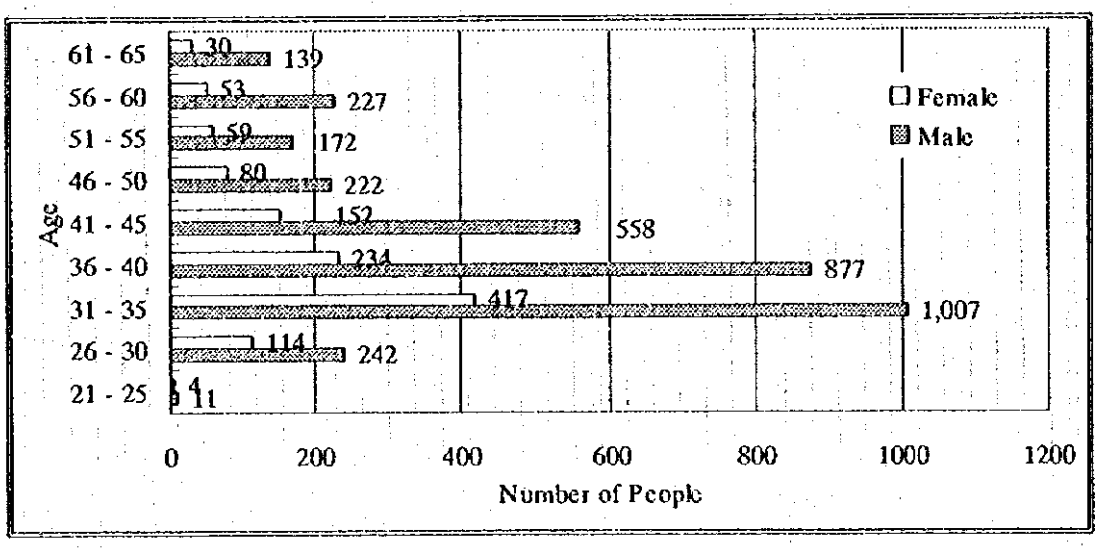

Figure 4.2.3 Regular Employees by Age and Sex as of 31 October, 1994

b) Employment Scheme

MWSS has been granted the authority to take final action on appointments for all levels of positions under the Civil Service Commission (CSC) Accreditation Program effective 1 May, 1994 in accordance with CSC Resolution No. 94-2117. Appointments of employees of MWSS is no

longer submitted to the Commission for attention (either approval or disapproval), but the Report on Personnel Actions (ROPA) is still required.

The selection (hiring and promotion) of applicants to fill vacant positions shall be through the Selection Board constituted in each department/project. It must be policies and procedures adopted by the Selection Board that govern regular positions. Positions to be filled should not exceed 25% of the vacant positions in the department/project pursuant to Administrative Order No. 177. In case the regular position is finally filled, the casual position chargeable against this regular position is automatically abolished, thus the appointment of the incumbent casual employee should be automatically terminated.

Process for hiring employees includes interview by the end user (departments/offices), evaluation by the Personnel Department, deliberation by the Selection Committee that compose of end user and a representative from the Personnel Department, and endorsement and approval by the DBM

(3) Compensation

Compensation for MWSS employees (regular and casual) consists of the basic salary and fringe benefits. Basic salary of an employee is determined by his/her position and the number of years he/she has occupied it. Adjustment in salaries as a result of increases in pay levels for upgrading of positions without involving any change in qualification requirements does not require new appointment. Fringe benefits are substantial in terms of the number of items (which is more than 10) and in total amount compared to basic salary. Compensation of contract consultants and experts, except casual employees, hired by MWSS for a limited period to perform specific activities or services with definite expected outputs, is according to the contracts.

Funds for all compensation in MWSS that will be required for the implementation of the salary standardization must be taken fully from the operation funds of MWSS. Allocation of funds to compensation are subject to the approval by DBM.

a) Base Salary

Base salary is determined by the salary grade (SG) which is related to the position and salary rank. Every person occupying a new position starts from Salary Rank 1 (one). If a person remains in the

same position and the same rank for three years, his/her Salary Rank will automatically shift to the next higher level. The current salary schedule as of 1 January, 1995 is shown as follows:

Table 4.2.9 Salary Schedule, 1995 (Interim Salary Schedule)

SG/Rank	1	2	3	4	5	6	7	8
1	3,800	3,820	3,840	3,861	3,881	3,902	3,923	3,944
----	----	----	----	----	----	----	----	----
10	4,902	4,933	4,964	4,996	5,028	5,060	5,093	5,125
----	----	----	----	----	----	----	----	----
20	8,498	8,566	8,635	8,704	8,774	8,845	8,916	8,988
----	----	----	----	----	----	----	----	----
30	20,675	20,865	21,056	21,250	21,445	21,643	21,842	22,044
----	----	----	----	----	----	----	----	----
32	23,700	23,920	24,124	24,367	24,593	24,822	25,053	25,827
33	25,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Above figures show monthly basic salary; unit is Pesos

b) Fringe Benefits

All regular and casual employees are equally eligible for receiving fringe benefits. The fringe benefits, as of July 1994 are as follows:

1	Longevity Pay	P50/year of continuous service
2	Children's Allowance	P30/child/month, limited up to four (4) children
3	Meal Subsidy	P25/day(Maximum 22 days a month)
4	Rice Allowance	P500/month
5	Uniform Allowance	P2,000/year
6	Medical Allowance	P2,500/year
7	Representation/Transportation Allowance	Adjusted to Standardization Rate (40% of basic pay for section chief and above)
8	Loyalty Award	P100/year (given for 10 year service or longer)
9	Mid-year Financial Assistance	Equivalent of one month gross pay
10	Anniversary Bonus	50% of basic pay or P4,000, whichever is higher
11	Christmas Bonus	One month basic pay
12	Year-end Financial Assistance	Equivalent of one month gross pay
13	Welfare/Prov. Fund	Educational, emergency, personal, all purpose loan

(4) Long-term Benefits

All regular employees must retire at age of 65, and are eligible for receiving retirement allowance with two options. There was the idea of optional (early) retirement system in addition to regular retirement, but because of some restrictions, mainly budgetary difficulties, the implementation of the optional retirement system has been suspended.

a) Payment Option 1

Lump sum of the above allowance at retirement is paid by MWSS, plus retirement contribution with interest for personal share and without interest for government share. Employees who are eligible for retirement pay must work at least total 20 years and the last three years must be continuous.

b) Payment Option 2

Pension is paid by GSIS (Government Service Insurance System) and 50% of the retirement pay is by MWSS in a lump sum at retirement. This option is only for employees retiring at age 65 and those who have worked at least a total of 15 years by age 60. Pension starts at age 70.

c) Retirement Allowance Calculation Formula

The following shows an example of the retirement allowance calculation formula for an employee who has worked for more than 21 and less than 30 years:

(20 + (number of years worked - 20) x 1.5) x monthly basic salary (highest)

(5) Evaluation

The Performance Appraisal System (PAS) has applied to all officials and employees of the MWSS except the Administrator, Senior Deputy Administrator, and Deputy Administrator whose performance is covered under the Career Executive Service Performance Evaluation System. Contract personnel are also excluded from this appraisal system, but this procedure may be applied for the purpose of renewing their contract.

The appraisal is performed every 6 months and the result is used to advance the salary rank of officers and employees. As a rule, only 10% of the employees will be advanced to the next salary rank (if rated very satisfactory) or advanced two salary ranks (if rated outstanding). Those who are rated less than "very satisfactory" will be advanced to the next salary rank after being in the same rank for three years. Rank advancements will be made once a year while the evaluation is performed every 6 months. This system is only utilized for determining the salary rank of managers and employees, and not for other purposes, such as for position promotion and assignment to appropriate jobs.

The performance appraisal is performed semi-annually, the first period covering from January to June and the second from July to December. Each manager or employee is rated by his/her immediate supervisor, subject to review or concurrence by the next higher supervisor.

MWSS has five ratings for evaluation of employee performance as follows:

- **Outstanding**: This rating is given to an employee whose performance exceeds the target by at least 50%. It represents an extraordinary level of achievement in terms of quality and time, technical knowledge and skill, ingenuity, creativity and initiative. Employees at this performance level should have demonstrated exceptional job mastery in all major areas of responsibility.
- **Very Satisfactory**: Given to an employee whose performance exceeds the expected output/target by at least 25% but falls short of what is considered an outstanding performance.
- **Satisfactory**: Given to an employee whose performance meets 100% of the standards or ordinary requirements of the duties of the position.
- **Unsatisfactory**: Given to an employee whose performance is 51% - 99% of the requirement, but could stand improvement. It is expected that in the next rating period, the employee, under close supervision, will either improve his performance to the extent that he shall be given at least a satisfactory rating, or if not, he shall get another unsatisfactory rating. Two successive unsatisfactory rating shall be grounds for separation from the service.

- **Poor**: This rating is given to an employee whose performance meets his own requirements or only 50% or below minimum requirements and there is no evidence to show that he can improve his performance. A rating of poor shall be grounds for separation from the service.

(6) Training

Along with the MWSS human resource development policy, there are many training programs provided by HRDD for employees.

a) Career and Personnel Development Rule by Civil Service Commission

Every agency of the government must establish a continuing program for career and personnel development for all its personnel at all levels, and create an environment or work climate conducive to the development of personnel skills, talents and values for better public service. The career and personnel development plan includes provisions on merit promotions, performance evaluation, in service-training, overseas and local scholarships and training grants, and other human resource development (HRD) interventions such as on the job rotation, job swapping and others.

b) MWSS Human Resource Development (HRD) Policies

In accordance with the Civil Service Commission Rule, MWSS has adopted the following policies:

- (HRD) activities must be vigorously pursued by MWSS. These are designed to improve the efficiency of the employee, develop his potential, increase his productivity and thereby optimize the effectiveness of the organization in the pursuit of its institutional objectives and goals.
- All training, education and development activities initiated or sponsored by MWSS or in which it participates must contribute to and be consistent with its organizational and operational objectives.
- Employee training, education and development, an essential part of human resource (HR) management, shall consciously seek to use the human potential of the organization to the greatest possible extent. These activities shall be conducted not only to improve on present performance but also to prepare personnel for new or greater responsibilities.

- Line officials and supervisors have a major responsibility in continuous training, education and development of all personnel. They shall, therefore, be involved in its organization and implementation.
- The training, education and development function shall be so organized as to provide the necessary specialized knowledge and skills throughout MWSS in an economical fashion.
- Attendance in training, education and development programs shall be viewed as incentive to and in recognition of an employee's performance.
- Equitable opportunities for improvement and growth shall be provided to all deserving employees.
- Successful completion of appropriate courses/programs shall be considered for promotion and other personnel actions.
- Self-education and self-improvement shall be recognized, stimulated and encouraged by MWSS.
- The Human Resources Development (HRD) Department shall be primarily responsible for all activities relevant to education, training and development in MWSS.

c) Employee Training

Many management programs for supervisors and division managers are performed for developing and enforcing their skills and capabilities. Above the division managers position, administrative people are trained in the courses which are provided by CSC (Civil Service Commission). Training programs are to be given to regular employees. Non-regular employees, such as casual employees, may subsequently be allowed to attend local or foreign training programs or scholarship grants provided under some categories. The basic conditions for selecting trainees are as follows:

- For regular courses, only employees with regular status with at least six (6) months of "Satisfactory" service shall be considered. The required regular status and length of service, however, may be waived upon certification by the department manager concerned that the training courses will be of immediate benefit to the nominated employee and relevant to the position presently occupied.

- For special courses, only regular employees with at least one year of satisfactory service shall be considered.
- Only employees without pending administrative or criminal cases shall be considered for training.
- The relevance and urgency of the training course to the candidate's official functions shall be the main consideration in the selection of trainees.

Training programs for employees are grouped into four categories: in-house training, external training, overseas training, and TED (Training, Education and Development) and Scholarship.

- **In-house Training**: The employment development courses were given to 365 participants in 1993 and 631 participants in 1992, which required 548 training hours in 1993 and 768 training hours in 1992, for a total of 11,864 training man-hours in 1993 and 17,728 training man-hours in 1992. Highly specialized/technical courses of HRDD were attended by 282 participants in 1993 and 654 participants in 1992 for a total 724 training hours in 1993 and 1,656 training hours in 1992, totaling 11,604 training man-hours in 1993 and 28,324 training man-hours in 1992.
- **External Training**: MWSS's employees attended 242 external courses in 1993 and 103 external courses in 1992, conducted by both government and private entities. These totaled 4,850 training hours in 1993 and 5,956 training hours in 1992 or 10,654 training man-hours in 1993 and 14,842 training man-hours in 1992. Employee development courses were attended by 153 workers in 1993 and 135 in 1992, while 89 employees in 1993 and 129 in 1992 participated in highly specialized/technical courses.
- **Overseas Training**: Every year, MWSS sends trainees (officials and employees) to many overseas countries.

Table 4.2.10 Overseas Training

Description	1991	1992	1993	1994
No. of Trainees	18	18	17	50
No. of Programs	18	20	12	20

- **Other "Training, Education and Development (TED)" Activities**: A total of 103 TED activities (42 in-house/61 external in 1992, 117 in-house/57 external in 1993)

were attended by 2,302 participants (13,089 in 1993) totaling 1,461 training hours/13,450 training man-hours in 1992 (2,547 training hours/77,477 training man-hours in 1993).

- **Local Scholarship**: A total of 6 grants in 1993 and 21 grants in 1992 involved 15 employees in 1993 and 13 in 1992 comprising the following scholarships: National Scholarship for Development(NSFD), Water Resources Training Program, Master Degree Scholarship Program (MDSP), Local Scholarship Program (LSP), Master in National Security Administration (MNSA) and program in Development Economics.
- **In-plant Training**: In addition to the training programs/courses, MWSS conducts regular in-plant training which is to be given to students of schools.

Table 4.2.11 In-House Training Programs for 1995

- Management & Supervisory Development
  - Foremanship Training
  - PAS -MORE
  - Training for Effective Supervision
  - Systematic Problem Solving & Decision Making
  - Managing & Conducting Effective Meetings
  - Planning & Budgeting Seminar Workshop
  - Effective Employment Counseling
  - Time Management Employee Development
  - Training for Service Investigators
  - Effective Customer Relations Development
  - Stress Management
  - Business Report Writing Administrative Development
  - Records Management Seminar
  - Administrative Skills Development
- Specialized Training
  - WordStar 5, dBase III Plus, Lotus 123
- Student In-Plant Training
- Other Programs
  - Lecture Forum
  - Area Staff Development Program
  - Middle Management Development Program
  - Executive Development Program
- Professional/Technical Training
  - Seminar on Water Quality Management, Treatment and Distribution
  - First Aid Seminar
  - Field Operation Appreciation Course
  - Occupational Health & Safety Seminar
  - Contract Administration
  - Industrial Safety
  - Groundwater Development & Management Seminar
  - Operation & Maintenance of Wastewater Treatment Plant
  - Disaster Preparedness Relief Service Seminar
  - Seminar/Workshop on Mountaineering Skills Development Training
  - Plant Accessories, Electrical Circuits on Motor Control
  - Defensive Driving
  - Toolkeepers and Storekeepers Training
  - Valves & Hydrants Operation & Maintenance
  - Seminar on Basic Plumbing
  - Training on Arc Welding
  - Training on Gas Welding
  - Small Engine Mechanics Course
  - Field Equipment Operations and Maintenance

Table 4.2.12 External Training Programs for 1995

- Local Training Program
  - Seminar/Workshop/Convention/Conference etc.
  - Scholarship Programs ---- UP-NEC, UP-School of Economics
  - Masters Degree Scholarship
  - National Scholarship for Development
- Overseas Training
  - Overseas Scholarship or Study Grant
  - Overseas Training
  - Echo Seminar
  - MWSS-MWA Exchange Program

(7) Salary Standardization Law

The Salary Standardization Law (R.A. 6758), enacted in 1989, is a law applicable to MWSS to standardize the salaries of all civil servants working for GOP. This essentially consists of a salary table that has 33 salary grades each having 8 ranks, including job descriptions for each, prepared and issued by the Civil Service Commission for the use of all GOP units and agencies. This law is just as applicable to the President of the Philippines as to the Administrator of MWSS and to someone just starting out with MWSS. Each civil servant is assigned a salary grade based upon the responsibility he is supposed to fulfill. His salary will be advanced within the grade from ranks 1 to 8 based upon performance and experience. When expected to take on a new job responsibility, he will get a new grade.

(8) Employee Relations

EO 292 (Civil Service Code) allows all government employees including those in government-owned and controlled corporations with original charters to form, join or assist an employees' organization of their own choosing for furthering and protecting their interests.

The KKMK-MWSS (Kaisahan at Kapotiran ng mga Manggagawa at Kawani sa MWSS) is the dominant labor group at MWSS, where there are several more labor organizations in addition. These are the MWSS Worker's Union (MWU) with about 200 members and the MWSS Employees' Union (MEU) with about 50. But both have been inactive and seem to have allowed the KKMK-MWSS to dominate labor affairs. Only the latter, with about 4,000 members, is authorized to enter into a collective bargaining agreement with management on non-economic nature after wining the certification election in 1988.

2.3.8 Information System and Communications

(1) MIS System

This MWSS function is centralized under the MIS Dept. at the Main Office in Balara. MWSS currently operates an IBM 4341 Model 2 mainframe computer located at the Computer Service Center (CSC) in the Main Office for customer service providing customer information, billing, collections, and accounts receivable in addition to the payroll system for the Personnel Administration Dept.

CSC maintains and operates three major pieces of hardware equipment. The IBM mainframe computer purchased as a second-hand machine in 1986 is used for customer service and payroll applications. The FACOM FM7 data entry machine is used for converting customer information and collecting data into machine readable magnetic tape medium. The new IBM RS/6000 workstation was installed for the new accounts receivable system. The existing IBM and FACOM equipment are going to be replaced with new IBM RS/6000 workstations by 1996.

(2) Information Systems Plan (ISP)

ISP is designed based on a client-server network model and will run on a distributed processing mode in order to support decentralization of MWSS operations in conjunction with the Sectoralization Plan. ISP is one of the most important projects for operations improvement enabling the old mainframe computer, that has ran on an inefficient batch processing mode, to be replaced with modern advanced information technology to dramatically improve the existing labor-intensive manual systems. Improvement of overall efficiency of operations in the future highly depends on the degree of success of ISP.

a) Objective and scope

Its objective is to streamline the MWSS organizational and operational setup through automating data recording, storing, sharing and reporting. Its has been designed and developed based on a distributed and open network system. The former MIS Manager has conceptualized the ISP Project and from then on, SDD has taken the lead role. ISP covers the following eight major application systems which are further divided into 36 subsystems:

- Customer Servicing System (CSS)
- Project Planning and Implementation System (PPIS)
- Water/Sewer Facilities Management System (WSFMS)
- Materials Management System (MMS)
- Financial Management System (FMS)
- Personnel Management System (PMS)
- Support Service System (SSS)
- Office Automation/Decision Support System (OADSS)

A project manager from the user department is assigned to each of the above application areas with responsibilities for design and implementation of the new application system with assistance provided by SDD and IBM. IBM Philippines is undertaking system development for all application areas as a system integrator responsible for development software, hardware installation, providing some of the training for MWSS personnel, and project management.

According to ISP, MWSS has a plan to install a total 26 IBM RS/6000 workstations at six (6) functional offices and nineteen (19) sector and branch offices in addition to one system at CSC for system development and maintenance. All 26 workstations are planned to be connected through a microwave cable or WAN (Wide Area Network).

b) Implementation of ISP

Overall project status on applications system development is a few to several months behind due to a delay in prototyping, construction of systems and user test. Other causes of delay are misunderstanding of user requirements, database design error, frequent design changes, and lack of user involvement. Likewise, due to the delay in review and approval of CMP by the Executive Committee, the implementation of ISP will further delay schedule.

c) Installation of hardware and communication network

MWSS has been installing 26 IBM RS/6000 workstations for the six functional areas: Engineering, Construction, Customer Service, Operations, Finance and Administration plus all sector and branch offices. MWSS is also replacing telecommunications equipment and lines with

a new PBX and microwave system that can handle both voice and data. The microwave dishes have already been installed at selected locations for testing. MWSS will use a point-to-point data communication mode with a 9600 baud rate based on a X.25 at the first phase of ISP and then upgrade to a more sophisticated network system with installation of the network management system. The installation of the Premises Distribution System, a structured cabling system for both the data stations and telephone using a single cable for the Engineering and Administration Buildings, is currently delayed and it is one of major stumbling blocks for ISP implementation.

d) Initial data conversion

Requirements for initial data conversion of the Customer Servicing System, a core system of ISP, are being defined by the MWSS project team for bidding to select a contractor. This process may take another six to eight months and may become one of major causes for delay in implementation. Other systems also need data conversion from the manual system to the new automated one and it requires a great deal of manpower and time to create files on databases. Currently, data conversion strategies and plans for the other systems are being formulated.

(3) Change Management Program

The Change Management Program (CMP) has been developed and submitted by SDD to the Executive Committee in 1994. The Plan includes planning and management of CMP, organizational realignment, information dissemination, training and management involvement (program review). However, it has not been reviewed by the Executive Committee while CMP workshops have already been held for CSS, PPIS and the MIS personnel. The following discusses the current status of CMP:

a) Organizational realignment and redeployment of human resources

Under CMP, divisional responsibilities, number of staff, and required skills for each organizational unit were supposed to be defined by special committees and the operating units realigned based on the new organizational structure and roles. Since CMP has not been fully approved yet, the study on realignment of organization and redeployment of human resources in user departments have not been accomplished except for the Customer Service Area (CSA).

b) MIS and user training

The training programs are divided into two areas, technical and management. The training program for technical aspects covers system development, computer operations and applications, security protection and control, audit and control, capacity planning, system management, telecommunications, etc. mainly forMIS personnel. On the other hand, the training program for management aspects is designed for seven main systems for end users. User's training for CSS and PPIS, and training of MIS personnel have been carried out through the CMP workshops.

c) Development of Standard Operating Procedures (SOP)

In order to use ISP effectively and train user personnel, the development of SOP manuals for each functional area covered by ISP is essential. The manuals will include operating policies and standards, system descriptions, reporting procedures and responsibilities, coding structures, standard forms, and output reports. At present, no SOP manuals have been developed and no budgetary arrangement has been made.

3.3.9 Other Supporting Functions

(1) Public Relations

This is performed as a staff function under the Administrator. Responsibility for it falls with the Public Information Department (PID), consisting of two Divisions, namely the Publication and Production Division and the MWSS Action Center (MAC).

a) Publication and Production

The Publication and Production Division (PPD) is involved in preparing printed and audio visual promotional materials, sponsoring lectures and events and acting as liaison for mass media as MWSS spokesmen. The following lists samples of promotional materials and activities handled by PPD:

1. Printed Material
   - MWSS Annual Report (1,000-2,000 copies/distribution to stakeholders)
   - MWSS Technical Journal (Annual/5,000 copies/distribution to PWWA members and other engineers for promotion of MWSS)

- MWSS Yesterday, Today and Tomorrow (Annual/several hundred copies/introduction of history and activities of MWSS)
- The Pipeline(Monthly/5,000 copies/distribution to employees of MWSS and other related agencies)
- Water saving posters, stickers and pamphlets (for consumers, school students, visitors, etc.)
- Introduction of Projects (Documents for public hearings)
- Leaflet for special events

2. Audio-visual Material

- Documentation of projects through videos and pictures
- Promotional videos for lectures, public hearings and other purposes
- Commercial videos and tapes (broadcasting commercial films and tapes)

3. Lectures, Events and Press Relations

- PID conducts lectures requested by barangay community, Rotary Clubs and schools
- The office tours are conducted by the Customers Services Area and the offices and facilities of MWSS are open for school children and adults.
- Press releases, announcements, interviews and conferences

b) MWSS Action Center (MAC)

MAC is a new function much closer to customers. This function has been created as an information control center for customer's claims. It receives complaints from customers and monitors follow-up activities conducted by various units in response to these complaints. Since ISP has not been completely implemented, MAC handles information about customer complaints using "stand alone" personal computers. The existing telecommunications network is not yet in ideal condition. These situations make it difficult for MAC to monitor follow-up activities of customer complaints with speed and accuracy.

(2) Research and Development

Generally, the role of research and development (R&D) in MWSS is limited to applied research. Pure academic research is outside its scope. MWSS participates in research and development

projects conducted by some other government agencies such as DENR (Department of Environment and Natural Resources) and DOST (Department of Science and Technology) to fulfill this need. In addition, MWSS can get necessary information from universities such as the University of the Philippines (UP). Some new technologies are transferred through foreign assisted projects where experts are sometimes sent from outside the country for this purpose. While applied R&D does not usually require large investment in funds and facilities, the equipment and facilities for it are still not adequate.

The Research and Development Division (RDD), that has only the Environment Section, is supposed to undertake research studies for development of water and sewage treatment processes, and also pertaining to type and quality of construction materials for use in projects. However, there are no R&D activities in these areas at present due to insufficient R&D resources. The R&D activities for improvement of water treatment and construction materials are not centrally conducted at RDD, but rather performed at each operating unit in daily operations as required.

(3) Quality Control

a) Water quality control

Water quality is monitored and controlled at a laboratory situated in each water treatment plant. The Central Laboratory also conducts sampling tests from water faucets, wells and sewage drainage. The Central Laboratory Division (CLD) consisting of three sections, the Water Research & Analysis, Sewerage Research & Analysis and Field Survey & Sampling Sections, performs surveillance of the water distribution system, water sources, etc., deepwells through laboratory tests. The Division also collects samples of wastewater to monitor the quality of effluents and of water for laboratory tests.

The following lists examples of current research activities of CLD:

- Water analysis/examination of bottled drinking water
- Plankton count/chlorophyll A/pheophytin A monitoring of Balara Filter No. 1 and 2 flocculation and sedimentation waters with proliferating scum
- Monitoring of Laguna Lake Waters and La Mesa Dam Reservoir

- Fecal or non-fecal contamination and their source/modes of entrance to water system
- Study on positive coliform findings despite high chlorine residuals readings
- Research on ideal indicator for chlorine residuals
- Monitoring of La Mesa Dam Reservoir to establish its Biological Index

CLD personnel takes basic training courses, but higher level courses such as acquiring skills to operate new equipment and testing methods will also be required. At present, these training opportunities are provided by equipment manufacturers that send MWSS R&D staff to other premises that own new equipment.

b) Material quality control

Material tests such as resistance to pressure are conducted based on international standards at laboratories in La Mesa and Balara. MWSS complies with several international standards, such as ISO, AWWA and JIS, for testing materials. These standards, primarily chosen by the Engineering Area, are included in bidding documents which describe specifications and procedures for testing. The Quality Control Division (QCD) consisting of three sections, the Pressure & Leakage, the Materials Testing and the Field Testing & Plant Inspection Sections, mainly performs testing and inspections on construction material quality and water pressures. It also conducts testing on work-procedures and/or workmanship for certain types of job.

The Quality Control Division maintains the following facilities:

- Materials Testing Laboratory at the La Mesa Dam Compound, Quezon City
- Materials Testing Laboratory at the Balara, Quezon City
- Office on the second floor of the engineering building

The above facilities are not large enough to conduct R&D activities, but they seem to be adequate for testing and inspection on construction materials. At present, the Division is equipped with apparatus for materials commonly used by MWSS. For other materials, the Division has to rely on outside government accredited laboratories, e.g., the Industrial Technology Development Institute (ITDI), the Materials Testing Laboratory of the City Engineering Office of the City of Manila, UP Laboratories, and the Philippine Institute of Pure and Applied Chemistry (PIPAC) at Ateneo University.

The following lists examples of those research activities in QCD:

- New methods and procedures in material testing
- New and up-to-date materials for use in future projects and in MWSS O&M
- New facilities and equipment to improve future services of MWSS

Good sources of reference such as updated books and journals of various authoritative organizations, i.e., the American Society for Testing & Materials (ASTM), the American Waterworks Association (AWWA), the American Cement Institute (ACI), the International Standard Organization (ISO), etc., could serve as primary help, aside from up-to-date equipment.

At present, QCD has only a few trained and skilled staff to perform its duties and responsibilities. Aside from their own training experience and educational background, necessary training for the researcher not adequately provided. Usually, personnel training is given to those interested in being trained and seldom to employees who should be trained because of their duties and functional responsibilities. Mostly, personnel want to undergo training for promotion purposes only.

(3) Legal

MWSS legal matters are mainly handled by the Legal Dept. in the Administration Area. The Legal Dept. reviews contracts with constructors or consumers from the legal standpoint. Most civil and criminal cases against and for MWSS are handled by the Legal Dept. or the Public Bidding Award Committee (PBAC).

The Legal Dept. consists of three divisions, the Complaint and Investigation, the Contracts and Real Estate, and the Court Cases Divisions. All complaints against MWSS employees such as misconduct and illegal activities are handled by the Complaint and Investigation Division. This Division also issues legal opinions regarding administration matters. The Contracts and Real Estate Division prepares and reviews contracts involving MWSS. It also handles areas regarding MWSS real properties or ones that need to be acquired by MWSS for its projects, besides issuing legal opinions on these matters. The Court Cases Division files both civil and criminal cases involving MWSS and also handles illegal connection cases and collection of unpaid water bills of

delinquent concessionaires. The following describes typical complaints and lawsuits filed against or for MWSS:

a) Related to Contracts

There are several court cases involving bid awards. Those cases are normally filed by losing bidders against MWSS bidding procedures and evaluations. Since the Legal Dept. is in charge of contract preparation or review only, the cases themselves are handled directly by the Public Bidding Award Committee (PBAC).

Others are lawsuits filed by MWSS for unfulfillment of project contract due to disputes between MWSS and contractor(s) or to bankruptcy of the latter. MWSS sometimes rescinds contracts due to poor performance or to violation of the terms and conditions by the other party, etc. In one case the contractor sued MWSS for different interpretation of one provision regarding payment of actual taxes and dues by the contractor, who claims full payment of the estimated amount.

b) Related to Water Bill Payment

There are numerous cases of checks dishonored by the banks for water bill payment by concessionaires due to closed accounts or insufficient balance.

c) Related to Squatters

One of the major legal issues is the squatter problem that most construction projects encounter. Evicting them requires legal action beginning with a notice to vacate the MWSS property and then filing for eviction for violation of the Anti-Squatting Law. If a court decides in favor of MWSS, the Law first requires it to provide relocation sites and/or to pay compensation before ejection. Either case needs funds since MWSS does not have properties available for this purpose.

Chapter 3.

Strengthening Plan

Chapter 3. Strengthening Plan

3.1 Institution

3.1.1 Options for Unbundling

The following three factors should be taken into consideration in assessing the unbundling process and options for the water supply function of MWSS. (The sewerage and sanitation operations are separately discussed in **Section 3.1.3** in this Chapter.)

- Organizational set-up (functional responsibilities): Planning, infrastructure development, O&M, customer services and supporting functions, i.e., finance and administration
- Physical set-up (water supply network system): Water source, treatment, transmission and distribution
- Geographical set-up (customer service jurisdiction): Eight service sectors

In order to understand the relationship between its physical set-up and functional boundaries, the following chart depicts the schematic overview of MWSS water supply systems:

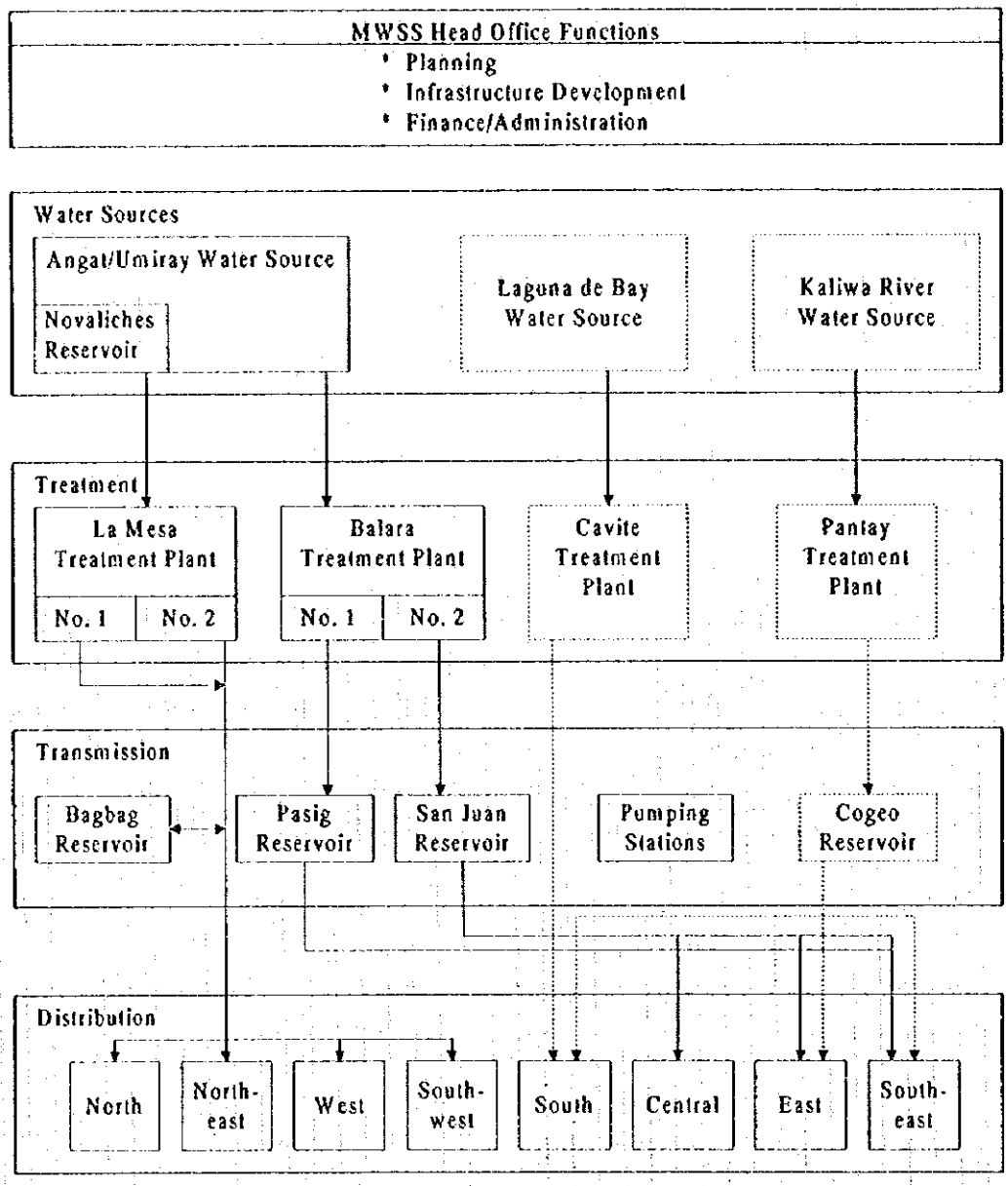

Figure 4.3.1 Schematic Overview of MWSS Water Supply System

Considering the factors mentioned above, the Study Team identifies five basic options for unbundling the MWSS organization. The first three are vertical disintegration while the last two are horizontal.

a) Functional Unbundling (Option 1)

This option is to unbundle MWSS vertically into three functional areas as follows:

1. Resource planning/management and infrastructure development
2. Operations and maintenance (water source, treatment and transmission)
3. Distribution and customer service.

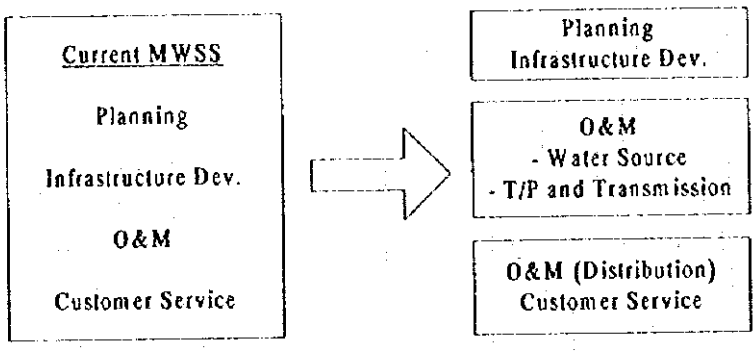

Figure 4.3.2 Functional Unbundling

The objective of this approach is to attain greater functional autonomy and independence and thus achieve better performance through concentrated and undivided attention in each functional area. This goal can be attained with structural changes to be made to establish functional organizations within MWSS by giving each of them greater autonomy and independence and designating them as profit centers. The existing MWSS has already been structured by functional area, and this unbundling could be achieved with only minor restructuring; however, the introduction of the profit center concept to each organization, which may be new to most MWSS and very critical in this option, should be undertaken and discussed thoroughly among the heads of the new organizations.

One disadvantage of this option is that MWSS may lose overall control of the different functional organizations. Furthermore, the lack of competition in the distribution and customer service areas will still remain.

b) Segregation Between Planning/Development and Routine Operations (Option 2)

This option will break up MWSS into two areas, i.e.:

1. Resource planning/management and infrastructure development
2. Daily routine operations (O&M, distribution and customer service)

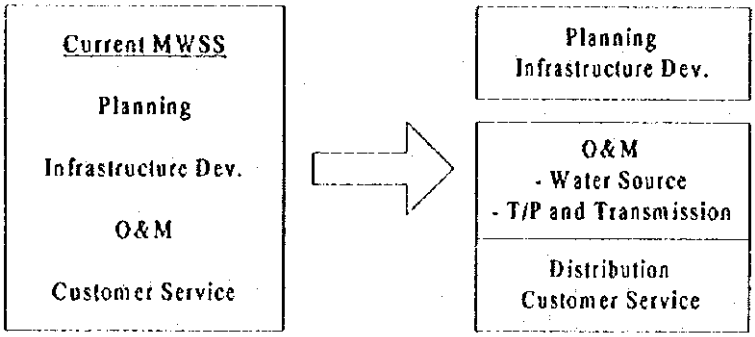

Figure 4.3.3 Unbundling between Planning/Development and Routine Operations

The objective of this approach is to attain effective control over the day-to-day operational problems of the water supply system, thus isolating planning, program development and infrastructure development which require longer gestation.

This will require a structural change of the MWSS organization and an introduction to the water supply system of the division-company/profit center concept. While it assures control over day-to-day routine operations and economy of scale, it still lacks competition because the integrated monopoly of the water supply system would still remain.

c) Unbundling between Wholesale and Retail (Option 3)

This option is to unbundle MWSS into two areas as follows:

1. Wholesale operations (planning, infrastructure development and O&M covering water source, treatment and transmission)
2. Retail operations (O&M of distribution and customer service)

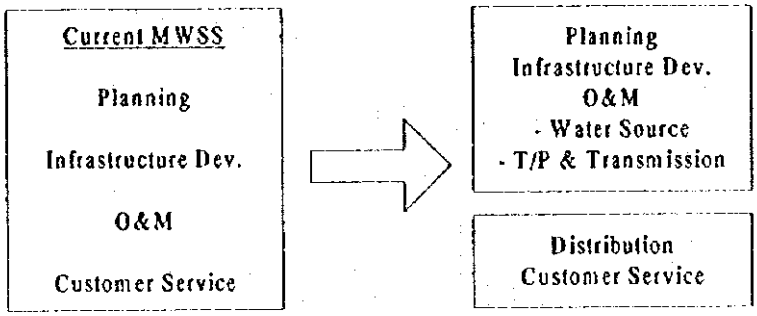

Figure 4.3.4 Unbundling between Wholesale and Retail

This may improve operational efficiency substantially due to the fact that the retail company may gain a high degree of autonomy required to make timely decisions in daily operations and improve customer-oriented services. One major setback of this option is the lack of competition in both wholesale and retail areas.

d) Unbundling by Water Source (Option 4)

This option is to introduce competition in wholesale operations when Kaliwa River becomes a water source in the future. The O&M function of wholesale operations will be separated by water source as follows:

1. Angat/Umiray source, treatment and transmission
2. Kaliwa River source, treatment and transmission

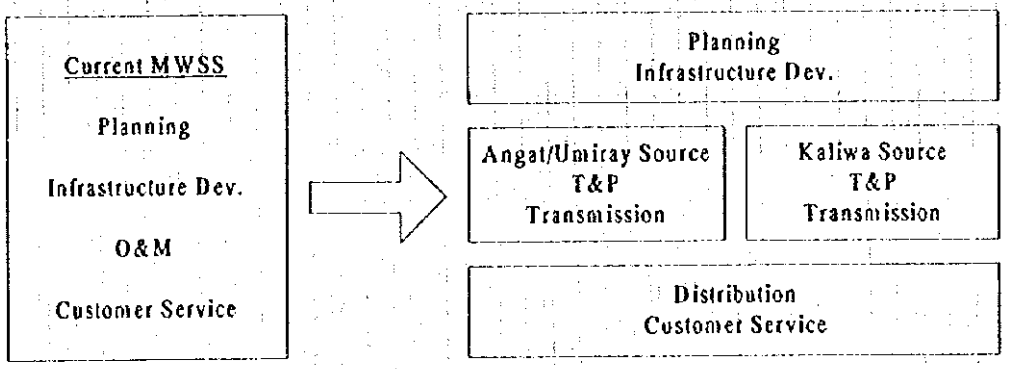

Figure 4.3.5 Unbundling by Water Source

The objective is to create a competitive environment between the Angat/Umiray and Kaliwa River sources. The advantage is that it would create competition in the wholesale area while the

disadvantage would be the loss of system integrity. One risk factor is that water volume from the wholesale area to be transmitted to the retail area would be based on the physical network set-up, not on the supply/demand equation or market mechanism. Therefore, the desired competitive environment may remain somewhat illusory under this type of unbundling.

e) Unbundling Retail Operations by Region (Option 5)

This option segregates MWSS into wholesale and retail operations, the latter further divided into two or more units by region as follows:

1. Wholesale operations (planning, infrastructure development and O&M including water source, treatment and transmission)
2. First retail operations (e.g., North, Northeast, West and Southwest sectors)
3. Second retail operations (e.g., Central, East, Southeast and South sectors)

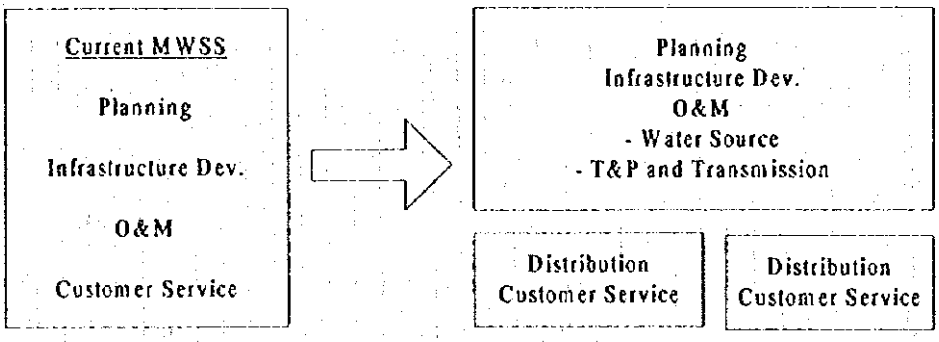

Figure 4.3.6 Unbundling Retail Operations by Region

This is similar to Option 3 with the same benefits, except that retail operations including distribution and customer service would be divided further into two or more regional units or franchises. It creates a more competitive environment between the regional units. In addition, it will make private sector participation (PSP) easier because bidding and contract negotiations can be undertaken separately for each unit or franchise, adopting for each the most suitable form of privatization options such as management contract, lease agreement, concession, etc. A major setback will be the potential loss of economy of scale if broken up into too many units or franchises.

3.1.2 Options for PSP

Options for PSP fall into two main categories according to the ownership of assets as follows:

(1) Government retains ownership of assets

In this category, the government retains ownership of assets and issues service contracts for operating them. Ultimate responsibility for the provision of services and ownership of assets remains with the public sector organization. Management and operational activities are carried out by private sector companies. Right of access to monopoly facilities and service obligations are stipulated by a contract.

Examples of options for this category are service contract, management contract, management contract with profit sharing, lease, concession and BOT (Built-Operate-Transfer).

a) Service Contract

The public authority signs a contract with a private organization to provide specific clearly defined services such as meter reading, billing, collections, maintenance, connections, etc. The contract period is short (i.e., 1 to 2 years), subjecting contractors to more frequent competition and eliminating the need for complicated fee adjustment procedures. Service contracts allow for cost reduction through competitive tendering for specific services and may be used in conjunction with other more intensive forms of PSP.

b) Management Contract

A contractor assumes responsibility for operation and maintenance of the water system or a major part of it, such as production facilities and maintenance and repair operations. The contract period is about 3-5 years, with the option to convert to a more intensive, longer term arrangement. Day-to-day control and operating authority and maintenance responsibility is transferred to a contractor who bears the financial risk of operating the network. Remuneration is based on achieving agreed upon parameters such as expanded services, volume of water delivered, improved collection rate, etc.

c) Management Contract with Profit Share

This is similar to the management contract and the fee is limited to performance. The contractor should enjoy the freedom to make most day-to-day management decisions. Ultimate responsibility for provision of services remains in the public sector, while management, operating authority and financial risk are transferred to the private sectors. Under this option, holding contractors accountable for overall results of operations and evaluating performance are difficult.

d) Lease

Initial setup is financed by the public authority and then transfered to a private contractor for all operations and maintenance functions. The contract is usually for an extended period of time (i.e. 10 to 15 years) and contractors competitively bid for it, with the winner assuming all operational risks during the life of the contract. With the exception of capital expenditures, the operator assumes responsibility for all expenses related to maintenance and provision of services; it also pays fixed rent to the public authority to cover debt-service and retains all profits but is responsible for any losses.

e) Concession

In addition to responsibilities assumed under the lease option, concessionary arrangements transfer some or all responsibility for construction or rehabilitation (financing of capital expenditures), as well as operation and maintenance to the private sector operator. Concessionary contracts are binding for a period of 15 to 30 years and transfer both operating and investment risk from the public sector to the private sector. Assets remain owned by the public authority. At the end of the arrangement, a new concession is competitively bidded for. These contracts provide incentives to the operator to achieve greater efficiencies, however, they are very complex.

f) BOT (Built-Operate-Transfer)

This option involves the private sector assuming full responsibility for the provision of additional assets in return for the right to sell its output to either the public sector or end users. The contract is usually for an extended period of time (i.e., 15 to 20 years). Upon contract completion, ownership of the assets is transferred to the public sector. Generally, BOT schemes are for the whole system, rather than individual parts. These schemes provide incentives to improve overall operating efficiencies. In water supply, the buyer agrees to purchase a minimum volume of water at a fixed price.

(2) Government sells the assets

In this scheme, the government sells the assets to the private sector. Private sector companies assume full responsibility for provision of services. Responsibility for provision of services is usually regulated by laws.

Examples of options for this scheme are trade sale, joint venture, public floatation, management/employee buyout.

a) Trade (or Private) Sale

This option involves the sale of the entire enterprise to a single bidder. Responsibility for service provision and asset ownership is transferred to the private sector. This option is usually done through competitive tender thereby increasing the chance of selling to a qualified investor with sufficient financial resources and management skill to restructure the company. However, if substantial restructuring is required, the price of the sale may be low. There may be resistance to selling the company to a foreign investor.

b) Joint Venture

The private sector and the public authority join forces to form a separate legal entity. There are two ways of setting up this new joint venture: one is to do it independently of the existing companies; another is to set up a new subsidiary company by converting the public corporation. Under this alternative, the government does not need to dispose of any of the existing equity in the public corporation. Rather, it will allow the increase of equity by the private sector thus diluting the government's equity to the desired ratio. Where the government wants to maintain control over the operations of the joint venture, the public authority has to keep majority ownership.

c) Public (or Stock) Floatation

This option involves offering the sale of shares of the company in the stock exchange. If handled properly, it may bring the highest proceeds from the sale of the government shares. It also will allow greater disposal of share ownership, including many domestic investors. However, unless sufficient proceeds from the sale are assured, or credit financing is available, the costs of restructuring may be prohibitive.

d) Management/Employee Buyout

This is effectively a trade sale to the public, basically to existing management and/or employees. The purchase price is often funded through debt financing by the buyers with shares purchased as collateral and with interest payments to come from future cash flows. After the debt is fully paid, the shares now freely held by employees of the company are often sold on the stock exchange. Asset ownership is permanently transferred to the private sector.

3.1.3 Options for Sewerage and Sanitation

(1) Independent Operations

The first two options discussed in this sub-section are for independent sewerage and sanitation operations while the other three discussed in the next sub-section cover the possibility of transfer of all or some of the sewerage and sanitation operations to other governmental agencies.

a) Independent Operations from Waterworks (Option 1)

This option is to retain the sewerage and sanitation operations in MWSS but to create an independent and separate operating unit apart from water supply operations. The new sewerage and sanitation operations would be headed by a Deputy Administrator who reports directly to the Administrator or any other senior management executive with stature to secure autonomy and independence on budget, personnel and day-to-day decisions for the sewerage operations.

Since it requires only a relatively minor organizational change with an approval by the DBM but no legislative action, it is easy to implement in the short term. Once it has been, a higher level of autonomy will be gained, supported by a separate sewerage and sanitation accounting system. One major concern of this option is that the low priority issue may still remain due to the fact that MWSS needs to concentrate first on the capital expansion for waterworks for the next 10 to 15 years. In addition, implementation of high-cost capital expansion of sewerage and sanitation system would be extremely difficult due to lack of cash generated from operations, the expected situation as long as the GOP maintains a policy of full cost recovery for sewerage and sanitation operations. This option would at best be a short-term solution.

b) New Public Enterprise Independent of MWSS (Option 2)

This would disintegrate the sewerage and sanitation operations from MWSS, to be placed under a new public corporation for full independence and autonomy from the DPWH.

However, the creation of such a corporation may be costly because the present size of operations and number of employees in the sewerage and sanitation system is relatively small (326 people) to establish a critical mass to sustain its operations. Under this option, full autonomy and higher priority for sewerage and sanitation will be further assured but enactment of new laws or amendment of existing ones would require lengthy legislative action.

The sewerage and sanitation operations have distinctive characteristics that differ from the waterworks operations; for example, engineering and O&M skills are incompatible to those of the waterworks, and it is difficult to apply commercial and competition principles due to the nature of the operation being similar to public works, and to implement self-reliant operations with the full cost recovery principle. Those characteristics along with the future development and expansion of sewerage and sanitation operations will form its own unique corporate culture that will lead to the necessity of making an independent organization of the sewerage and sanitation operations with full autonomy. Therefore, it is agreed that a comprehensive sewerage system is to be developed in the future, and that it is advisable not to place sewerage and sanitation under the same umbrella with waterworks, but to make this an independent entity.

(2) Transfer to Government/LGUs

At present only 14 percent of the total MWSS service area is served by sewerage while the rest has a sanitation system only. Due to the nature of both types of service as explained above there would be resistance to higher tariffs. Accordingly, it will be extremely difficult to operate the entire system on a full cost recovery basis due to very expensive infrastructure and operation, so a subsidy from the national or local government must be sought to partly finance current operations and future investment with Options 1 and 2, which calls for the possibility of considering direct undertaking of this responsibility by a governmental organization.

a) Transfer Sewerage and Sanitation Operations to DPWH or MMDA/LGUs (Option 3)

This option requires the transfer of the entire sewerage and sanitation operations, covering both waste water, and septage collection and treatment, to the group in charge of the drainage systems in DPWH or MMDA/LGUs which are now also responsible for garbage disposal. Sewerage and sanitation are national concerns because they affect the environment. Care in this area will benefit both the present and future generations. The substantial cost of construction, operation and maintenance should be considered as social costs to be shared by the direct beneficiaries, and national and/or local governments. Under this option, only partial costs might be recovered from customers while DPWH/MMDA/LGU shoulder the balance.

However, since sewerage and sanitation will just be additional burden on the staff and budget of DPWH or MMDA, it may be given low priority, negating the purpose of the transfer. Furthermore, their present budget barely covers their present requirements. It is doubtful that they will spend part of their budget for sewerage and sanitation system if the operation is transferred without a corresponding transfer of budgets from the national government. The financing for the separate sewerage and sanitation operations would be a problem as long as the matter of full cost recovery is not resolved. Another issue regarding the transfer of full sewerage operations to DPWH is that a conflict of interest may arise because it will be handling both regulatory and implementation functions.

b) Transfer Sewerage and Sanitation Treatment to DPWH and Septage Collection to MMDA/LGUs (Option 4)

This option is to transfer sewerage and sanitation treatment operations to the drainage section of DPWH and septage collection operations to MMDA/LGUs. One advantage is to be able to combine similar operations in the same agency: sewerage and drainage operations at DPWH and septage and solid waste collections at MMDA/LGUs.

Both DPWH and MMDA/LGUs have their own problems they have to solve first, so adding waste water collection tariffs and environmental charges would be an additional burden. Sewerage and sanitation may not be assured of priority because of the problems mentioned in Option 3.

c) Transfer Septage Collection to MMDA/LGUs (Option 5)

This option is to transfer septage collection operations to MMDA/LGUs while MWSS retains sewerage and septage treatment operations. The advantage is that LGUs can mobilize residents' participation in promoting sanitation, health and hygienic programs among those who will directly benefit.

To pursue this option requires that MWSS negotiate individually with MMDA and all LGUs to which the transfer will be made, a time consuming procedure. In addition, collection of environmental charges for sewerage and sanitation programs through MWSS would be difficult when service is handled by LGUs.

Table 4.3.1 summarizes implementation methods, pros and cons and tariff collection method on all five options discussed above for comparison.

Table 4.3.1 Options for Sewerage & Sanitation Operations

Options / Type / Description	Option 1 Independent Operations from O & M	Option 2 New Public Enterprise Independent from MWSS	Option 3 Transfer Sewerage & Sanitation to DPWH or MMDA/LGU	Option 4 Transfer Sewerage/ Sanitation Treatment to DPWH & Septage Collection to MMDA/LGU	Option 5 Transfer Septage Collection to MMDA/LGUs
Implementation Method	• Create independent sewerage & sanitation organization within MWSS • Establishing separate budgeting and accounting systems • Approval by DBM on organizational change	• Create new public corporation dedicated to sewerage & sanitation operations under control of DPWH • Enactment of new charter for corporatization	• Transfer sewerage and sanitation operations to Drainage Section of DPWH or MMDA/LGU that deals with wastes • Modification of related laws for full transfer of sewerage and sanitation operations	• Transfer operations for sewerage/septage treatment plant to DPWH and septage collection to MMDA/LGUs • Modification of related laws for full transfer • Negotiation with LGUs • Construction of septage treatment facility by DPWH	• Transfer only septage collection to MMDA/LGUs • Modification of related laws for sanitation • Negotiation with MMDA/LGUs • Construction of septage treatment facility by MWSS
Pros	• Gaining some autonomy • Sharing management resources with MWSS • Easy to collect sewerage and environmental charges	• Securing full autonomy	• Integration with rain water drainage or waste treatment operations which overlap some in sewerage/sanitation	• Integration of sewerage with drainage systems • Decentralization of sanitation operations • Promotion of sanitation programs through residents participation	• Decentralization of sanitation operations • Promotion of sanitation through residents participation
Cons	• Lack of full autonomy • Lower priority on sewerage and sanitation operations	• Duplication of management resources • Too small operations to create a new GOCC	• Duplication of some management resources	• Duplication of customer data maintenance • Inability to manage septage collection	• Duplication of customer data maintenance • Inability to manage septage collection
Tariff Collection	MWSS	MWSS, based on a service contract	MWSS, based on a service contract	Sewerage: MWSS/DPWH Septage col.: MMDA/LGU	Sewerage: MWSS Septage col.: MMDA/LGU
Sewerage Sanitation: Treatment Collection	MWSS/New function MWSS/New function MWSS/New function	New public corporation New Public corporation New Public corporation	DPWH or MMDA DPWH or MMDA DPWH or MMDA/LGUs	DPWH DPWH MMDA/LGUs	MWSS MWSS MMDA/LGUs

3.2 Organizational Strengthening

3.2.1 Strategies

(1) Decentralization

As a short-term strategy, the Operations and Customer Service Areas which require daily routine operations and immediate response to customers' requests shall be segregated from the Administrator's direct responsibility and be placed under a newly created Chief Operating Officer (COO) at the SDA level. This COO will be responsible also for internal coordination within MWSS for matters involving both the Operations and Customer Service Areas. This would free the Administrator from daily routine operations so that he can concentrate on matters requiring long-term planning and implementation.

Another short-term strategy is that the sectoralization in the customer service function shall be fully implemented and formalized through a preparation of detailed manpower plans and negotiation with the DBM for an approval on transfer of personnel and budget requirements. In addition a study on how to manage a service sector including the degree of autonomy to be given, introduction of the profit center concept and possible PSP options should be conducted and an action plan developed. The other area that requires decentralization is sewerage and sanitation operations, which could form a semi-autonomous independent operating unit to be newly created from waterworks under the COO.

In the long run, the Customer Service Area and/or a service sector may be able to gain greater autonomy and independence from headquarters while they/it assume(s) more financial responsibility and are/is held accountable for the results of operations.

(2) Empowerment

In order to alleviate a lengthy and slow decision making process due to involvement of too many decision makers and organizational red tape, powers and duties for the Administrator, SDA, DAs, department and division managers and section chiefs shall be redefined after a thorough review of the MWSS bylaws, corresponding assignments and delegation of authority. The objective is to transfer areas that require day-to-day attention from upper management to a lower hierarchy in the

organization. Upper management will thus be freed from everyday routine work and problems to devote more time to important management issues.

Furthermore, the powers and duties of operating units which will gain semi-autonomous status due to the decentralization strategy should be given to operation unit heads instead of being retained by upper management. Each DA, department manager, division manager or section chief who heads his or her own operating unit should be directly accountable for the results of operations. In order to measure the performance of each unit, standards (both qualitative and quantitative) should be established together with an accountability system. In the area of the operation and customer service functions, the position of COO should be created as discussed above, and the powers and duties for managing day-to-day operations should be transferred from the Administrator to the COO (or SDA) of Operations, responsible for results in that arena.

(3) Rightsizing

MWSS has been reducing the number of regular and casual employees for the past several years. Between 1990 and 1994, the number of employees was reduced by 1,455 from 9,250 to 7,795 (318 regular and 1,137 casual). Adjustments in the size of organizations will be continuous due to rationalization by information technology, contracting out of non-mission activities and transfer of excess personnel to strategically important functions. MWSS will have to be prepared for massive reduction in the number of casual employees, especially in the Construction Management Area, if future water source development projects are implemented through PSP such as BOT or similar schemes.

Reduction in personnel will come mainly through attrition of casual employees, natural retirement, and transfer of employees to the private sector through contracting out activities, e.g. meter reading, leak repair and vehicle maintenance. Rightsizing requires a long-term manpower plan and strategy on how to deal with employees and managers who will be affected. Voluntary early retirement should be the last resort in restructuring. One of the ideas for dealing with managers and employees whose jobs will be affected by PSP is for MWSS to assist them in forming cooperatives and to give exclusive contracts to these cooperatives as a safety net for termination of employment. Another idea is for MWSS to negotiate the transfer of employees who have appropriate skills and are qualified for jobs in private companies to whom service contracts are awarded. As a parallel

move to PSP, MWSS may need to establish an outplacement service function in the human resource management area to assist employees affected by reorganization and PSP.

As a long-term strategy, MWSS should aim to make its operations much more efficient by continuously increasing employee productivity as the number of population served and service connections will grow significantly. In the water supply sector, the number of employees per 1,000 connections is often used as a benchmark to measure efficiency of operations. The number of employees per 1000 connections of MWSS as of December, 1994 was 9.4, comparing unfavorably with such cities in Asia as Bangkok (5.5) and Kuala Lumpur (2.5), except for Jakarta (10.2), although this information has to be considered in relation to the stage of water utilities.

3.3 Operational Strengthening

3.3.1 Common Methodologies

(1) General

MWSS may apply the following common approaches to various functional areas in order to improve and enhance its operational efficiency:

Approach 1 - Re-engineering: Streamlining strategy, organization, procedures, information systems and human resources through redesign and restructuring of operations in various functional areas based on a re-engineering methodology

Approach 2 - Service Contract: Contracting out to the private sector non-mission but critical and labor-intensive routine work based on a service contract.

Approach 3 - Management Contract: Acquiring advanced technology and management skills for specific operations through a management contract with private companies that have extensive experience in these fields.

(2) Re-engineering

a) Objective

The objective of re-engineering is to make the existing operations more efficient. Re-engineering, also called business process re-engineering or BPR for short, is a methodology of change management that was originally developed in the United States and has spread to Europe and Asia during the last several years. In general, BPR is defined as follows:

> "With customer (both internal and external) satisfaction as its primary goal, BPR aims to reconstruct the business process from zero base by focusing on the four main points of service, quality, speed and cost and thus establish a competitive advantage."

b) Approach

The re-engineering approach first identifies business processes for specific operations to be re-restructured and then processes are reviewed, redesigned and reconstructed through removal of no value or low value added activities, duplication of work and walls or barriers that lie between functions or departments to streamline the operations. BPR requires restructuring six key elements of operations covering strategy, organization, procedures, information system, human resources and performance measurement.

Re-engineering requires three phases as follows:

Phase I - Opportunity Assessment

1. Analyze external environment surrounding specific operations and internal resources and capability
2. Define internal and external customers of operations and measurement indicators of customer satisfaction
3. Identify existing planning, core and supporting business processes
4. Analyze issues and problems on the existing business processes and activities performed in each of them and identify opportunity areas for improvement
5. Establish key goals and targets for improvement and strategies to attain them

Phase II - Solution Development

1. Conceptualize business process models
2. Clarify opportunity areas for improvement using models
3. Develop and prioritize alternative solutions
4. Integrate solutions to the existing overall management planning and control system
5. Redesign business process based on selected solutions
6. Redesign new organization and information system and identify required skills to support new business processes
7. Develop implementation plan of new business process

Phase III - Implementation

1. Develop new standard operating (SOP) procedure manuals
2. Develop or modify information systems that support new business processes
3. Re-assign or transfer personnel based on new organization and activities to be performed

4. Train personnel on new organizational set-up, business flow, information systems and required skills to perform activities
5. Monitor progress of implementation and adjust business processes and activities.

(3) Service Contract

a) Objective

In order to provide efficient service to customers, MWSS may be able to delegate responsibilities for specific services to a private individual or firm based on a service contract. The key advantage of this form of contracting-out arises from the reduction in cost achieved by competitive tendering. Service contracts are usually most suitable where the service can be clearly defined in the contract, the level of demand is reasonably certain and the quality of service can be monitored easily. Areas where service contracts may be applied in MWSS are meter reading, billing and collection, leak repair, septage collection and vehicle leasing.

b) Approach

Service contracts require little or no fixed investment on the part of the private firm, and for this reason, the contract period can be short (1 to 2 years), subjecting contractors to more frequent competition, and eliminating the need for complicated fee adjustment procedures. In the MWSS service area, several contracts can be tendered with different firms to deliver the same type of service in different districts. For example, in the case of meter reading, a service sector could be divided into several blocks and each block can be tendered. This enables MWSS to compare costs and performance on an on-going basis and sustain competition. MWSS may encourage its employees to leave the company and form cooperatives or private firms that would bid for service contracts.

The efficiency of service providers depends to a large extent on their freedom to make managerial decisions that affect their costs and productivity, such as those dealing with staff and the procurement of inputs. Service contractors normally use their own staff and thus have full control over hiring and firing. Depending on the terms of the contract, they may or may not procure the inputs required to carry out the contracted functions. If the firm maintains an inventory, it will have greater autonomy and control over outputs. But in the Philippines, access to working capital for small enterprises is limited, and in some cases, bulk procurement of inputs by MWSS might be

more advantageous, e.g., meter reading machines for meter reading, supply materials for leak repair, and desludging vacuum cars for septage collections.

The public bidding for service contracts will be performed in the same manner as the existing procurement mode and procedure.

(4) Management Contract

a) Objective

In order to improve certain operations, such as maintenance and logistics, construction project and service sector management, MWSS can enter into contract with a private management company, likely a foreign firm. The management contract is increasingly viewed as an effective alternative to direct investment for the transfer of corporate organizational and technical capabilities to LDC's. Management contracts have been defined as "arrangement(s) by which a foreign firm performs managerial functions for a local enterprise in which it has no ownership interests. The firm generally provides such services for a fixed period of time, usually three to five years with renewal option, in return for compensation specified in the agreement.

It is noted that under this kind contract, the management company's reward is not an entrepreneurial one for risks taken but a managerial one for services rendered.

b) Approach

The aim of the contract is to transmit the contractor's corporate expertise to the employees of MWSS so that over time it is able to run the maintenance and logistics operations of its own accord. Ideally, during the course of the defined contract period, the Manager's services will become unnecessary because, by its direct efforts and presence, MWSS managerial capability will have improved to a point at which authority can be handed over to MWSS staff.

This goal should be explicitly spelled out in the management contract by terms which prescribe in varying degrees the measures which the Manager is to take to work towards absorbing trained MWSS employees into all phases of the maintenance and logistics administration.

The Manager will deploy a whole range of skills and resources in order to carry out its assigned contractual functions. These include personnel, technical procedures and processes as well as what has become known as its "corporate capabilities."

The human resources, or personnel, provided by the management contractor consists of field staff, working directly on the on-site operations throughout the contract period, and temporary staff, available at the home company headquarters for support to the operation site on a need basis. In addition, the management firm directors will be supervising the assignment as a whole and will do so both from the corporate headquarters as well as by visiting the site from time to time. Besides, the management company provides certain logistic back-up functions supporting field staff operations.

Since the primary objective of the contract is to enable MWSS personnel to operate functions on its own, it can be expected that the scope of the Manager's duties under the contract will be gradually reduced as the capabilities of MWSS employees increase. Similarly, the number of expatriate staff members will likely diminish during the contract period as trained locals become available.

The actual extent of the Manager's control will depend on the scope of its assigned duties as well as on the degree of the authority explicitly reserved to MWSS under the contract. That control is not solely a matter of contractual wording. It may also depend upon such factors as the contractor's reputation, image and track record, MWSS's perceptions of these and also the uncertainties of GOP's actions.

The management company will be remunerated for its services to the project according to one, or a combination, of the following:

- Fixed fee for each component of the contract
- Fees based on the man-hours logged by company personnel
- Contingent fees based on profits, earnings, revenues, or value added, if assigned functions are treated as a profit center or measurable performance indicators can be established
- Fees for the procurement of equipment or materials, expressed as a percentage of cost.

The Manager will be compensated for its field staff services as well as for the back-up services it extends from company headquarters. Compensation for field work is based on direct salary costs plus an administration charge for any indirect costs. Payment is often made in a lump sum per month, week or hour of work and will include both direct and indirect costs. Alternatively, the field staff might be grouped into several categories and a lump sum rate set for the personnel in each group.

The management company will be selected through public bidding based on the following process:

1. Development of Request for Expressions of Interest (REI)
2. Announcement of REI on international newspapers
3. Evaluation of REI and short listing
4. Preparing bidding documents
5. Submission of bids
6. Opening and evaluation of bids
7. Contract negotiations and award.

3.3.2 Corporate Planning

(1) Corporate Planning Process

The following chart depicts the overview of the proposed management planning and control cycle.

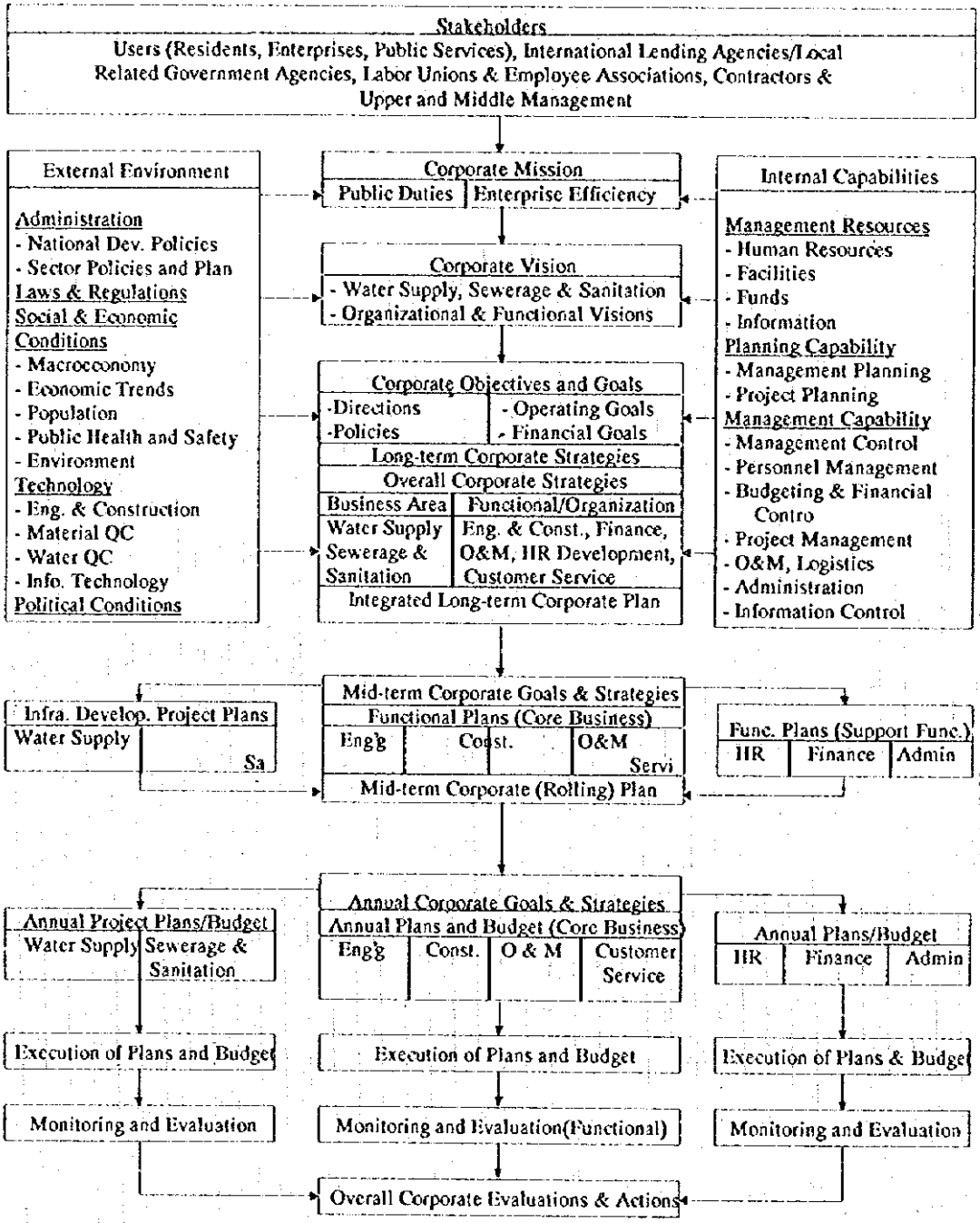

Figure 4.3.7 Proposed Planning & Control Cycle

a) Long-term Corporate Planning Process

The long-term management planning process shall begin with a study of the external environment and internal capability and a review of corporate mission. Based on the study, a corporate vision will evolve. Then, national and sector development plans shall be studied in order to translate the

national and sector policies, goals and strategies into MWSS corporate directions and goals, to turn into corporate strategies. The corporate directions and goals shall be further translated and broken-down into directions and goals at the functional level, and then functional strategies shall be developed by the task force. The corporate and functional goals and strategies shall be reviewed by the Executive Committee and approved by the Board of Trustees. The corporate plan shall then be distributed to each functional area and to department and division managers.

Based on the functional directions, goals and strategies, the functional long-term management plan, including resource requirements, time table, risk assessment, etc., shall be formulated. At the same time, individual long-term project plans such as capital expansion projects, service delivery programs and institutional strengthening plans shall be reviewed for possible revision. As a final step in this planning process, the results of studies and plans shall be integrated into the long-term corporate plan which includes the following items:

- Results of study on external environment and internal capability
- Corporate mission, vision, direction, goals and strategies
- Capital expansion plans, service delivery programs and institutional strengthening programs
- Functional management plans supported by action plans
- Corporate resource requirement plans (manpower and financial plans)

b) Medium-term Corporate Planning Process

Medium-term corporate planning process follows almost the same steps as the long-term corporate planning process except the following:

- A study on external environment and internal capability will be carried out to identify deviations from those used as a base for the long-term plan.
- Corporate and functional goals and strategies will be reviewed for adjustment due to changes in external and internal conditions.
- More detailed functional plans supported by action plans will be developed.

c) Short-term Corporate Planning and Budget Process

The short-term corporate planning and budget process shall begin with a review of the medium-term corporate plans and the current year short-term corporate plan being implemented. Major changes in the external environment and internal capability shall be identified, and corporate goals and targets for the ensuing year shall be established by the task force. The corporate goals and targets shall then be broken down into functional goals and targets and, based on them , functional plans developed by each functional unit. Then the process will follow the budget call to develop a corporate budget. As a final step of the short-term corporate planning and budget process, a short-term corporate plan shall be developed. This will include overall corporate, functional and project action plans and corporate budget.

d) Implementation Process

Upon approval of the short-term corporate plan along with the budget, this plan shall be implemented by each functional unit or project team, and its progress reported periodically by each functional unit or project team to PMED using progress (accomplishment) reports. The FCBD shall also monitor the execution of the budget.

e) Monitoring and Evaluation Process

Based on the progress reports, PMED shall then compile the performance monitor report combined with the budget and financial result data. The monitor report shall then be submitted to the task force for evaluation of corporate and functional performance and to make recommendations on what actions upper management and each functional area should take.

The following chart shows a general flow of the corporate planning and control process:

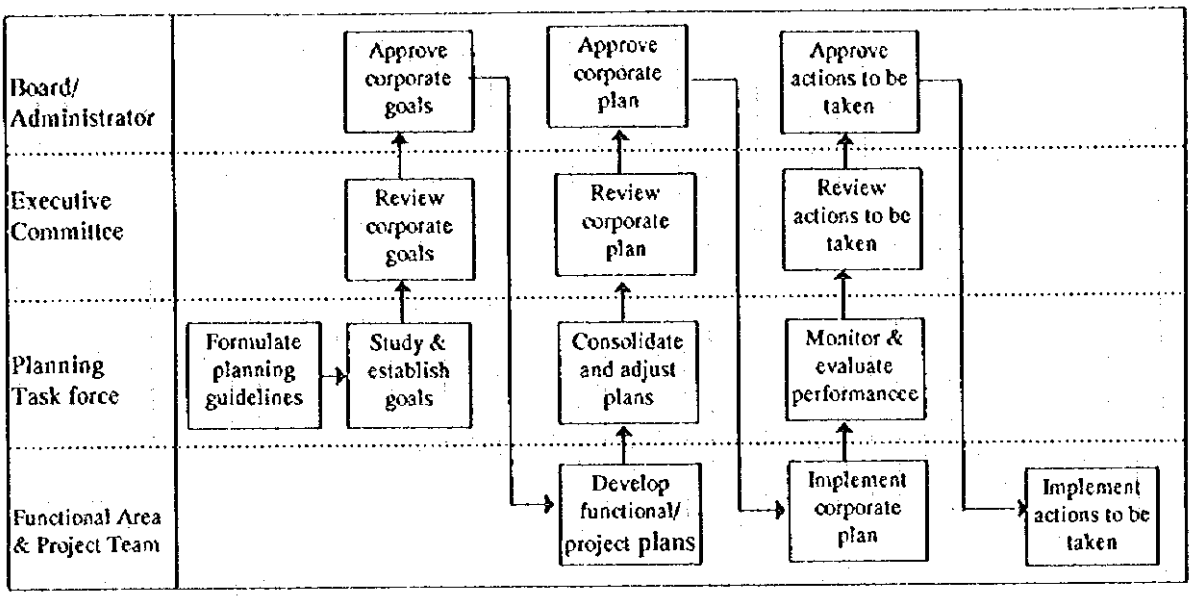

Figure 4.3.8 Proposed Planning and Control Process

(2) Performance Measurement

In order to evaluate activities and performance, MWSS should set performance measurements at various levels, integrating the measures into the corporate plans during the planning process based on the corporate and functional goals and strategies.

a) Performance Measures

MWSS should establish the following four levels:

- Macro Measures focuses on how the organization is perceived by outside stakeholders and how it is positioned relative to its external environment.
- Corporate Measures focuses on organizational effectiveness and operational efficiency.
- Functional Measures focuses on functional effectiveness and operational efficiency.
- Specific Measures focuses on achieving output objectives and meeting requirements on specific activities.

b) Proposed Performance Measures

The performance measures should consist of operating and financial measures. The next table lists some by level and area:

Table 4.3.2 Proposed Performance Measures

Level	Area	Performance Measures
Macro Measures	Water Supply	Population served Total distribution pipe length Water consumption per capita Average tariff per household Supply capacity
	Sewerage & Sanitation	Population served Total sewer line length Total treatment capacity
Corporate Measures	Water Supply	Number of service connections NRW ratio Number of employees per 1000 connections
	Sewerage & Sanitation	Number of sewer connections Number of septage collections
Functional Measures	Engineering/ Construction	Project completion ratio Executed capital budget amount
	O&M (Water)	Annual water distributed Unit production cost Water quality
	O&M (S&S)	Annual wastewater treated Annual septage treated
	Customer Service	Water service installation NRW ratio/Billing efficiency Billing month Number of customer complaints
	Finance/Administration	Staff ratio against core functions
Specific Measures	Engineering/ Construction	Pressure and leakage testing passed Construction accomplished
	O&M	Chemicals consumed Number of machine malfunctions Number of repairs performed Sewer installation
	Customer Service	Application processing Closing and reconnection
	Finance/Administration	Number of bids processed Number of claims processed Number of training sessions held
Financial Measures	Profitability	Profit ratio Operating expense ratio Total asset turnover Return on equity Rate of return
	Liquidity and Financial Capacity	Current ratio Debt ratio Long-term assets to I/T funds ratio Debt service ratio
	Growth	Total assets Fixed assets Long-term loans Operating revenue Operating expenses Net income

3.4 Study on Human Resources

3.4.1 Headcount Projection

(1) Assumptions

The Study Team based the projection of the number of employees and contractors on the following assumptions: Most employee or contractor performance parameters used were obtained from various operating units. Some arbitrary assumptions, however, were made using the Study Team's professional judgment due to difficulty in getting precise information or lack of reliable data.

a) Overall

The table below represents key service parameters to project manpower requirements:

Table 4.3.3 Service Parameters

Description \ Year	Present	2000	2005	2010	2015
Service Connections	799,000	1,063,000	1,549,000	2,092,000	2,831,000
Septage Tanks Desludging	50,000	103,420	103,420	188580	188,580

Source: Service Connections - MWSS Master Plan, Septage Tanks - MSSP developed by IBRD.

General contributing factors for reductions in headcount throughout the MWSS organization are assumed as follows:

- Operational improvement through implementation of ISP and CMP and removal of overlapping positions
- Contracting out routine operations such as meter reading, bill collection, leak repair and desludging
- General improvement of productivity

b) Corporate Staff Functions and MIS

Corporate staff function

- The number of employees will be increased by 5 professional staff every 5 years for the purpose of enhancing its corporate planning capability.
- Positions for casual employees will be gradually decreased or replaced by regular employees as the number of construction projects diminishes.

MIS function

- The number of employees will decrease by 66 people by the year 2000 through the implementation of ISP, eliminating the Input Machine Operation and the Billing and Data Control Sections. These functions will be transferred to the user offices.

c) Engineering Area

- Roles and responsibilities will shift from infrastructure development to rehabilitation of facilities, restoration of deteriorated distribution piping network, research and development of construction materials and treatment technology, and water quality control.
- The number of regular employees will diminish at the rate of 5 percent every 5 years through general efforts.
- Casual employees will be pooled and assigned to new projects or other ad hoc tasks after completion of the existing projects and will be reduced at the rate of 10 percent every 5 years through general efforts.

d) Construction Area

- The number of regular employees will decrease at the rate of 5 percent every five years until the year 2005 through operational improvement and 10 percent every 5 years from the year 2006 to the year 2015 due to diminishing construction work.
- The total number of casual employees is projected based on the following schedule of construction projects:

Table 4.3.4 Number of Casual Construction Workers

Project	Period	1994	2000	2005	2010	2015	Remarks
MMWDP	Compl'd '95	284	0	0	0	0	
MWSP III	To 2005	20	150	0	0	0	
AWSOP II	To 1998	123	0	0	0	0	
MWSRP I	Compl'd '93	581	0	0	0	0	Telemetry/Sectors
MWSRP II	Compl'd '95	656	0	0	0	0	Documentation
AWSOP I	Completed	29	0	0	0	0	
AWSOP III	1996 to 1998	37	0	0	0	0	
MSWDP	To 1998	30	0	0	0	0	
RPWSIP	To 2002	0	50	0	0	0	
UATP	1995 to 1998	0	0	0	0	0	
MRWDNP	1995 to 2007	0	500	500	0	0	
MSSP	1996 to 2008	0	150	100	0	0	
LFP/Rest TF		79	200	300	300	300	
Total		1,839	1,070	900	300	300	

e) Operations Area

Waterworks

- Completion of UATP in 1998 and MWSP III in 2005 will necessitate an increase of 60 and 110 regular employees, respectively, for operations and maintenance of new water sources, treatment plants and pumping stations.
- The number of regular employees will be decreased at the rate of 5 percent every 5 years through general efforts.
- The number of casual employees will be reduced at the rate of 10 percent every 5 years through efforts of operational improvement.

Sewerage and sanitation

- The number of regular employees will decrease at the rate of 5 percent every 5 years through general efforts.
- Operation and maintenance of septage treatment plants will require the following number of personnel:

Table 4.3.5 Number of Personnel for Septage Treatment

Description	Present	2000	2005	2010	2015
Barging stations	0	20			
Dagat Dagatan STP	0	20	30	30	30
Quezon City STP	0		30	50	50
Taguig STP	0		30	30	30
Las Piñas STP	0			30	30
Total	0	40	90	140	140

- Septage collection activity will be contracted out; the required number of personnel is calculated based on the following formula:

$$\frac{\text{Total septic tanks to be desludged per year}}{\text{254 working days a year}} \times 5 \text{ septic tanks a day} \times 5 \text{ people per crew}$$

- Existing regular employees for desludging will be retained in MWSS for emergency desludging operations.
- The number of casual employees in the Sewerage and Sanitation Area will be reduced at the rate of 10 percent every 5 years through operational improvement.

f) Customer Service Area

The next table shows a summary of headcount in the Customer Service Area:

Table 4.3.6 Customer Service Area Personnel

Description	Present	2000	2005	2010	2015
Regular employees:					
Branch personnel	680	786	997	1,171	1,378
Meter reading	199	99	0	0	0
Service connection	30	52	96	107	145
Meter replacement	118	140	188	267	369
Sector/other personnel	649	649	649	649	649
Subtotal	1,676	1,726	1,930	2,193	2,541
Casual employees -					
Leak repair	737	590	472	377	301
Contractors:					
Meter reading	0	184	413	558	755
Bill collection	285	379	552	745	1,008
Leak repair	373	460	578	542	486
Subtotal	658	1,023	1,543	1,845	2,249
Total	3,071	3,339	3,945	4,415	5,091

Branch personnel

- The efficiency (number of connections per staff) of branch regular employees (presently 680 people) will improve at the rate of 15 percent every 5 years.
- The current total number of regular employees in the Customer Service Area except branch offices will be maintained because reductions due to operational improvement will be offset by the requirements of increased transaction volume.

Meter reading

- Meter reading activity will be gradually contracted out and the required number of personnel is calculated based on the following formula:

$$\frac{\text{Total service connections}}{\text{25 working days a month}} \times 150 \text{ meters a day per person}$$

Bill collection

- All bill collection activities will be contracted out and the requisite personnel is calculated based on the following formula:

$$\frac{\text{Total service connections}}{\text{26 working days a month}} \times 108 \text{ collections a day per contractor}$$

Service connection

- The required number of employees is calculated as follows:

$$\frac{\text{Annual new service connections}}{\text{254 working days a year}} \times 4 \text{ meters a day per person}$$

Meter replacement

- The required number of meter replacements is calculated as follows:
  - Meters will be replaced every 7 years (60% of total connections in the previous period and 40% of total connections in the period before last)
  - 254 working days per year and 4 meters per day per person

Leak repair work

- The required number is calculated based on the following factors:

$$\frac{\text{Annual leak repairs}}{\text{254 working days a year}} \times 1.5 \text{ leak repair a day} \times 5 \text{ people per crew}$$

- Leak repair work will gradually decrease after the year 2008 when MRWDNP is completed.
- Casual employees will be reduced at the rate of 20 percent every 5 years and any overflow of leak repair work will be contracted out.

g) Finance and Administration Areas

- The number of regular employees will be decreased at the rate of 5 percent every 5 years through general efforts.
- Positions for casual employees in these areas will be decreased or replaced gradually by regular employees, as the number of construction projects diminishes.

3.4.2 Skill Requirement

The following table shows necessary skills and capabilities by function and degree of skill requirements that should be the basis for the development of a human resource development strategy:

Table 4.3.7 Necessary Skills by Functional Area

Function and Necessary Skills	Range	Manager	Engineer	Operator	Sup. staff.
Corporate Staff					
1. Corporate planning	Short-term	High	High	N/A	High
2. Coordination	Mid-term	High	Medium	N/A	N/A
3. Data collection/research	Short-term	Medium	Medium	N/A	High
4. Forecasting	Shot-term	High	High	N/A	Low
5. Monitoring & evaluation	Mid-term	High	Medium	N/A	High
Infrastructure Development					
1. Project identification	Short-term	High	High	N/A	N/A
2. Feasibility study	Short-term	High	High	N/A	Medium
3. Standardization	Long-term	High	High	N/A	N/A
4. Quality control/lab. test	Short-term	High	High	Medium	N/A
5. Research & development	Mid-term	Medium	High	N/A	N/A
Operations and Maintenance					
1. Network management	Short-term	High	High	High	N/A
2. Preventive maintenance	Mid-term	High	High	High	N/A
3. Maintenance logistics	Short-term	High	Medium	Medium	Medium
4. Job order control	Short-term	High	Medium	High	High
Customer Services					
1. Planning and management	Mid-term	High	N/A	N/A	Medium
2. ISP/end user computing	Short-term	High	N/A	High	High
3. Contractor management	Mid-term	High	High	N/A	High
4. Leak detection & repair	Short-term	Medium	High	High	Low
Finance and Administration					
1. ISP/end user computing	Short-term	High	N/A	N/A	High
2. Functional planning	Short-term	High	N/A	N/A	High
3. Operations improvement	Mid-term	High	N/A	N/A	High

3.4.3 Human Resource Management

(1) Enhancement of Motivation

Although motivated managers and employees are in abundance in MWSS, there is evidence of low morale in some employees as follows:

- Lengthy chatting among colleagues that has nothing to do with work
- Constant eating during work
- Lining up in front of the time clock minutes before 5 o'clock
- Poor punctuality

- Playing loud music at the work place

They appear to be caused mainly by:

- A notion that they are underpaid
- Limited opportunities for promotion
- Lack of role models
- Insufficient attention given to staff employees by managers

It goes without saying that the four fundamental factors making up business are people, materials, money and information, but no doubt the human element in a successful business is always well taken care of. Since as a GOCC MWSS does not have the liberty in fixing its own salary table and the promotion scheme based on seniority may not be changed immediately, it is very difficult to motivate employees with cash incentives. Therefore, MWSS should strive to enhance motivation and loyalty through non-cash incentives such as supervisors showing constant attention towards staff employees, adoption of a "mentor" system that will help design individual career paths and encouragement of a role model image among management, in addition to others discussed below.

As a trivial suggestion, since it appears that the recent introduction of uniforms for female workers has contributed to enhanced work ethics to some degree; why not do the same with male workers? Working in a very casual attire like jeans and T-shirts certainly does not result in an ideal working atmosphere. The Study Team has observed that inspired employees of other companies in the Philippines are working in a more stringent working environment. After all, a corporate culture must change from the bottom up.

(2) Job Rotation

Officers and executives are occasionally transferred to other units while lower rank personnel are sometimes relocated for purposes of internal control. Other than these, there are very few transfers of personnel from their original units. While it is a good policy to keep employees at their original jobs for some time to achieve proficiency, there are merits to job rotation such as lowering invisible walls dividing operating units, improving inter-departmental communication and transferring skills.

This could be achieved by planned periodic transfers of personnel from their original jobs to other more challenging ones. It may be done when it becomes routine to an MWSS employee thus providing little stimulation. This strategy will give them chances to experience handling more demanding jobs, thus resulting in technology transfer within MWSS. For managers, rotation will provide opportunities to get more experience in taking care of multiple divisions and/or departments.

(3) Review of Position Titles, Job Descriptions and Qualification Standards

Each position title is aligned to and matches each of the 32 salary grades in MWSS and, in turn, is given a specific job description and qualification. Because of similarities in each of the latter, little difference separates one from another within either category. While this strict delineation of employee responsibilities is helpful in assessing whether accomplishment is in accordance with job description, it seems difficult for supervisors to deploy their staff on assignments not spelled out in the description. Situations like employees' absences or unforeseen workloads require flexibility in assignments, so the supervisor should have the power to give additional or new tasks or to make reassignments even if these do not conform strictly to the original descriptions.

It is therefore suggested that one position title cover several related tasks and be re-aligned to a group of salary grades (e.g., Senior Accounting Clerk in place of Accounting Clerk 1, Accounting Clerk 2, etc.). The corresponding description and qualification for such a title should also be expanded, especially for areas most employees can perform within a couple of months' experience. In this manner, workers with expanded titles and job descriptions could be assigned to more tasks.

(4) Setting High Goals

Managers and supervisors should be able to gauge the capability of their subordinates in deciding whether and when to give bigger challenges or set higher targets, so those capable should be given chances to prove their worth. This is one effective way of motivating employees. When implemented, there should be periodic assessments of performance with regards to the additional responsibility or higher targets.

However, present job descriptions are so narrowly defined that giving additional responsibility may not be easy. They should be flexible so the span of activities for each employee is enlarged and managers can rearrange assignments easily.

3.4.4 Human Resource Development (HRD)

(1) ISP/CMP Implications

In the near future job processes, especially administrative work, will dramatically change and possibly decrease with the full implementation of ISP, whereas CMP will achieve proper allocation of organizational capacity and personnel. This will create issues of deploying unnecessary personnel now doing jobs requiring less people. Even at this early date, there should be a plan in place to assist those displaced from their present work through retraining for new jobs and processes, thus developing them as new human resources. In addition, the ones remaining in their current positions should also be retrained since there will be new automated data processing to replace the existing manual intensive system. So as to assist the employees with jobs affected by ISP implementation, CMP has proposed to retrain users to operate the new system.

(2) Education and Training Programs

a) Off-the Job Education and Training Programs

As a matter of policy for all government agencies, MWSS allocates a budget to employee education and training, mostly in the areas of management and engineering. These are usually related courses in off-the job programs. Overseas education and training have also been offered to a few. Although there seem to be a sufficient number of programs, the budget earmarked for relevant training facilities, tools and materials may not be enough.

b) On-the-Job Training

While off-the-job education and training upgrade qualifications, it is also necessary to provide on-the-job training (OJT) to let employees learn while performing their assigned tasks. Generally speaking, knowledge and techniques acquired while doing actual jobs are more beneficial and lasting than those acquired off-the-job. Therefore, to motivate managers and others to improve their work it is suggested that MWSS emphasize the importance of OJT with the introduction of small group activities combined with it.

3.5 Water Sector Activities

3.5.1 Study on Research and Development

(1) Key R&D Areas

Due to limited R&D resources including budgets, skills and facilities/equipment, it is not a good approach to spread them too thin amongst many projects. Therefore, MWSS should prioritize requests by various departments based on some criteria such as return on R&D investment, project costs, necessary skills, facilities requirement and urgency, thus concentrating efforts in the highest priority areas. The following matrix represents a classification of areas into high/medium priority by major category throughout the water life cycle:

Table 4.3.8 R&D Categories and Key Areas

Category	Water Quality	Material Quality	Treatment/ Network	Facility & Equipment	Environment
Water Source	High/ST				
Water Treatment	High/ST			Medium/MT	
Distribution	High/ST	High/ST	High/ST	Medium/MT	
Wastewater Collection		Medium/MT			Medium/MT
Wastewater Treatment	High/ST			Medium/MT	Medium/MT
Septage Collection				Medium/MT	
Septage Treatment				Medium/MT	

Note: ST - Short-term, MT - Mid-term, LT - Long-term

The following areas are proposed as high priority subjects for short-term R&D activities:

- Improvement of water quality monitoring, analysis and control methods from water sources through treatment plants to distribution system and wastewater treatment
- Research on materials for and quality of pipe network to reduce leakage
- Research on network analysis and distribution optimization through better network management.

Proposed medium priority subjects for short- to mid-term projects:

- Improvement of facilities and equipment for water treatment plants and distribution system in the mechanical and electrical engineering areas
- Study on materials for and quality of sewer lines
- Study on wastewater treatment including sedimentation, screening, grid removal, biological treatment, water recycling of treated water, sludge utilization and waste stabilization ponds
- Research on wastewater facilities, treatment/distribution equipment, lift station in the mechanical and engineering areas
- Study on septage collection and treatment
- Study on overall assessment of wastewater collection and treatment system regarding environmental impact.

(2) Special Interest Groups

A key issue to securing necessary skills is how to acquire, accumulate and retain core R&D knowhow and competency at MWSS. This function requires personnel possessing high technical skills and adequate experience in specialized areas. They must also be highly self-motivated and self-starters. Therefore, it is very important for MWSS to encourage R&D staff to acquire new knowledge through off-the-job training, taking university courses, attending conferences sponsored by institutes or industry associations and through exchange programs with other institutes to enhance their professional skills.

To achieve this in the short-term, it is strongly advisable that MWSS create Special Interest Groups (SIGs) by research area. They consist of engineers and professionals from various operating units working cross-functionally and managed collectively under the DA of Engineering. They would meet periodically, e.g., every other month, for exchanging technical information or conducting research on common subjects within SIGs. Once a year, all SIG members would meet to make presentations on their research.

(3) R&D Project Organization

The projects require personnel skilled in chemistry, biology, chemical/mechanical/sanitation engineering, medical technology, mechanics, pipe fitting, welding, etc. Since it can not always keep these human resources for projects, MWSS should organize the required personnel from the

Engineering, Operations and Customer Service areas on a temporary basis for the specific project; thus employees would maintain their original positions. An ARQCD manager would supervise so all assigned should report to him for the duration.

(4) Joint Research

One approach for pursuing R&D activities with limited resources is to tie up through an official agreement or coordination with other institutions or research centers. Through a good, cordial and highly professional relationship with them, MWSS would enable chemists, engineers and technicians of both sides to improve and deepen further their technical knowledge. A good mutual professional relationship would also be beneficial for the speedy development of necessary materials and work techniques. Exchange of information would mean synchronization of technical information and standards with each other. Synergy will then be achieved through joint research.

3.5.2 Public Relations

(1) Public Awareness

In December 1994, the Study Team conducted a survey among residents and enterprises within its service area. One of the results revealed that MWSS needs more intensive public awareness campaigns so that the general public has better understanding and appreciation of its activities. Four main issues came out of the survey:

- Low income residents rely less on water directly supplied by MWSS and tend to purchase more expensive water from vendors.
- Low income residents are more dissatisfied with MWSS services in spite of the fact it is trying hard.
- Most of the residents understand the necessity of hygiene, environmental protection and prevention of water pollution but do not clearly know MWSS' roles in those areas.
- Water and sewerage tariffs are perceived to be high, especially by low income residents.

As a result of the survey then, it is apparent there should be more campaigns on MWSS's roles in supplying potable water, public health and hygiene, and water environmental protection. To

pursue extending more intensive information to the public, the Study Team recommends the following four items as priorities:

- Expand direct public awareness campaign to the general public, not only to existing customers, but also to low income residents
- Seek involvement and foster closer coordination with local government units--municipal, city, and barangay (smallest administrative unit)--as representatives of the community/residents.
- Establish a central PR materials center where information may be disseminated or distributed to the public
- Clarify and establish the MWSS corporate identity supporting its missions to revitalize the organization.

a) Direct Reach to General Public

The present dissemination activities are mainly focused on media release, responses to customers' complaints received and inter-agency relations which cater to only limited audiences. They rarely reach out to the general public. Therefore, the Study Team recommends shifting PR focus from only customers to include many more. This could be achieved through annual reports with higher disclosure and pamphlets with wide circulation encompassing general interest topics such as how to curb excessive water consumption, the importance of safe water for good health and hygiene, and environmental conservation for present and future generations. As part of the overall effort, PID should take advantage of every opportunity to promote MWSS activities, i.e. during special events in municipal or barangay gatherings held from time to time. Close coordination with local government officials is very important for this purpose. The following lists specific areas to be strengthened:

Printed Materials

- A four page quarterly covering current MWSS topics such as budget, water tariffs, progress of major projects, important events, etc.
- Introductory corporate profile to accompany MWSS Annual Report including brief history, facilities, services, budget and organization:
- Topical issues brochures with such subjects as tips on water conservation, safe water supply, basic knowledge about water and water pollution, etc.

Audio-Visual Materials

- Video for possible use in lectures at public gatherings including city or barangay halls and churches
- Campaign films for showing in movie houses and other public places.

Special Events

- Designating a Water Consciousness Week devoted to discussions on related issues. This could be done by Presidential declaration so that all government offices are forced to participate.
- Civic lectures in municipalities/cities and barangays through a series on important subjects as part of PID's thrust to acquaint the public with MWSS activities.

b) Community Participation

Encouragement and coordination of public involvement in water related issues through LGUs, especially at the barangay level. In the Philippine culture, it is extremely important for MWSS to take the bottom-up approach through mobilizing grass root movements by resident forces based on the barangay or other small community unions and sharing a strong sense of ownership of the water supply, and sewerage and sanitation systems among residents. Illegal connections, slow water bill payment, vandalism on public facilities such as meters, fire hydrants and manholes, etc. will be hopefully reduced through efforts by not only MWSS itself but also with cooperation of the serviced communities.

c) Central PR Materials Center

It is recommended that a specific place be designated in MWSS where the public may examine information about its activities.

d) MWSS Corporate Identity

Good performance is without substitute the best way of projecting the MWSS corporate image, and it should be visible and made known to the public. One of the roles of PID is to provide opportunities and venues for making MWSS achievements known. For example, it could arrange

for top MWSS executives to be invited to TV talk shows, or as guest speakers or resource persons on seminars or symposia.

One way of projecting the corporate identity is through its logo along with its corporate mission. The meaning of the logo should be explained and related to MWSS mandates and activities. This could be done through the regular MWSS publications:

(2) Public Education

The results of the Study Team's survey showed the necessity to inform residents of the importance of MWSS activities with regards to public safety, health and hygiene. To achieve this, MWSS should initiate public education campaigns with the cooperation of other government agencies to emphasize the following areas:

- Water scarcity - Globally, raw water is abundant, but it is not necessarily always available where and when it is needed. Water scarcity is often a regional/national problem and is becoming a looming constraint on economic activity.
- Health effects - The use of polluted waters for drinking and bathing is one of the principal pathways for diseases that kill and sicken a great number of people every year. The direct impact of waterborne diseases is huge, especially for children and the poor, who are most at risk.
- Environmental damage - Its cost to humans - borne immediately or at some point in the future - are principally loss of health, productivity and amenity.

Two modules for such public education may be prepared, namely: a) for use in regular schools integrated with social science subjects, and b) for use in adult education and during community meetings as part of social activities of the students and community members. The following may be needed in promoting this activity:

a) Elementary School Education

MWSS should initiate discussions with the Department of Education, Culture and Sports on the inclusion of the above subjects in the regular school curricula, and with the government entity in charge of adult education on the inclusion in theirs. It should also propose to the head of the

barangay presentation of these topics during regular meetings. MWSS must also prepare materials to help students understand and appreciate the area of water resources, sanitation and hygiene and the community's obligations on these matters. If included in regular textbooks, upon approval by the government agency overseeing their printing, it would be less costly relative to the knowledge imparted to students.

b) General Public Education Campaigns

MWSS can invite community leaders and representatives to view water-related facilities (reservoirs, filtration plants, etc.) and explain the value of water resources, sewerage, sanitation, and hygiene, as well as MWSS activities, and prepare similar promotion materials as for schools for presentation to the public at large. It may also arrange a regular lecture series for professional, business and other organizations to discuss water-related matters, including sanitation and hygiene. In order to attract general interest, some space in the head office and filtration plant buildings may be reserved as mini waterworks museums where collections of historical documents, artifacts, old machinery, equipment, facilities, instruments, etc. could be stored and viewed. With more than 100 years of waterworks history, there is still no such place.

(4) Public Feedback

In order to understand major concerns of stakeholders against it and to measure the degree of customer satisfaction for its services , MWSS should create some mechanism to secure feedback by collecting suggestions, opinions and complaints from numerous sources including customers and suppliers.

One suggestion is to issue to customers questionnaires requiring simple but honest answers on vital aspects of operations at regular intervals (every quarter or semester) when presenting water bills, and to suppliers or contractors when they receive checks from MWSS, etc. There should be only a few questions and responses should involve only checking out designated spaces without requiring respondent identification. Drop boxes for answers should be provided at each branch office. If carried out, it is equally important to take remedial steps on any complaints coming out of such questionnaires. On the other hand, praises on MWSS activities should be equally highlighted.

At present, MAC handles similar activity, but only through and upon receipt of customers' complaints -- only a passive action. It should take more pro-active steps in this area.

3.5.3 Development of Water-related Industries

(1) GOP Own Initiative

a) Industry Development Plan

GOP has prepared MTPDP including the Industrial Development Master Plan to determine the general direction and industrial development policy on a broad level. Although formulated on a regional basis, there was no attempt to translate the plan into sub-sectors, whether nationally or regionally. The Team suggests industry development policies and strategies also be formulated for each sub-sector. This would assist foreign and local private investors to easily identify the directions of sub-sector where to invest. Specific sub-sectors serving MWSS requirements would attract investors because of the large market presently served by importation.

b) Incentives and Assistance

GOP leaves industrial development of the country to initiatives led by the private sector. While this policy is generally followed, there are other areas where the government can be more involved than just supplying needed infrastructures. For agri-processing, for instance, it provides incentives and assistance especially for products destined for export. For water-related industries, it has to play a greater role in their development rather than leaving the initiative to the private sector. Other areas where it could extend incentives and assistance are forging close association with the private sector by granting technical development support, promoting technology transfers, encouraging private companies to pilot test, arranging for matchmaking between domestic and foreign investors and undertaking programs on standardization, regulations and training.

On waterworks and water-related industries, standardization of materials and construction is presently considered one of the most urgent matters. Government agencies could lead this move as part of their regulatory functions.

Another area is the development of small to medium size construction companies, which MWSS needs for construction activities such as service connection, meter replacement or excavation.

Government financial institutions serving industries of this scale at low interest with longer amortization terms, could be encouraged to also provide funding for the above contractors. Some other incentives may be offered to these vital sectors servicing MWSS requirements.

(2) Sector Initiative

a) Philippine Waterworks Association (PWWA)

MWSS needs to establish standards on the quality of both materials and construction works. However, only MWSS follows them and not the private sector. It would be better if this were not the case in order to establish nation-wide standards.

Presently, PWWA has taken steps towards materials standards. Its standards and others' (such as MWSS's, that PWWA may adopt) should also be part of the Philippine National Standards through the Philippine Standards Bureau of DTI.

MWSS should take active part in PWWA activities especially since the majority of the latter's individual members are from MWSS and it should also lead the private sector in doing so in this important organization.

b) National Waterworks Standards

Combined with efforts by PWWA at a national level, MWSS should also establish standards on materials, construction work, documentation and inspection to facilitate PSP in its operations and MWSS contractors should follow them.

It is advisable to have a screening system through a qualification test primarily for engineers or management from private contractors offering their services to MWSS and other waterworks systems. PWWA may set up this system at the national level.

The Study Team also recommends that there should be technical training so skills and technology on specific areas are transfered to private contractors. This would benefit MWSS in the long run because it can share skills and knowhow acquired past many years with the private sector and its skills would catch up in a short period of time. For long lasting benefits, training should be done on a regular basis, to include the contractor's engineers and management.

(3) MWSS Own Initiative

Through the introduction of PSP, MWSS will be able to partly transfer responsibilities for service delivery to the private sector. The areas may be construction work including service connection, meter replacement and leak repair, meter reading and bill collection, desludging of septic tanks and maintenance of vehicles and water meters.

Since those operations require neither large capital investment nor sophisticated technology, MWSS will be able to provide opportunity for small business or even individual entrepreneurs, including its employees, to become its contractor(s).

Part V

Financial Study

Part V

Financial Study

Chapter 2.

Review of Operations

Part V Financial Study

Chapter 2. Review of Operations

2.1 Financial Performance

2.1.1 Financial Accounting Process

MWSS maintains separate sets of books of account for each fund (water, sewerage and projects). Two funds will be set up for a project if it consists of a local and a foreign currency portions (expressed in US dollars). Foreign currency balances are converted to pesos using the year-end exchange rate. In addition to project funds, there are a water and a sewerage funds. The project fund will be transferred to the water (or the sewerage) fund upon completion. These books of account are consolidated for reporting purposes.

There is no systematic EDP system for accounting data processing except for part of the AR system and the payroll system with an occasional use of stand alone PCs. Consequently most routine work is done by hand requiring a large number of staff in the Accounting Department. At July 1995, the department had 191 members (127 permanent and 64 casual, including 23 branch bookkeepers). MWSS is going to automate the accounting system with ISP in the near future although there has already been a delay in its design and implementation.

The books of account are usually closed and the trial balance prepared within two months after the end of the fiscal year (December 31) by the Accounting Department of the Finance Area, and they are then subject to an audit by the Commission on Audit (COA). The charter for MWSS, Republic Act No. 6234 (RA 6234), calls for MWSS to submit annual reports to the President of the Philippines and the presiding officers of the two houses of Congress not later than January 31 of the following year. Although this requirement is impossible to abide by in a precise sense, MWSS does provide the Office of the President as early as the first week of January with a "pre-actual" financial report consisting of the actual for the first ten months and estimates for the remaining two months.

Like all other government owned and controlled corporations (GOCCs), MWSS is subject to an audit by the COA pursuant to PD 1445. The COA not only audits the financial statements but

reviews all the transactions for compliance with the set rules and approves major accounting decisions made by MWSS. By reviewing transactions (called post-audit), although the COA cannot deny transactions that have already occurred, it can reverse them if they did not follow the rules. In this sense it performs the function of both an external independent auditor and an internal one. The Accounting Department submits to the COA the financial statements on or before February 15 for its year-end audit, which normally takes about two months. Any resulting findings and adjustments are discussed with MWSS and are usually reflected in the book. There are approximately 45 resident full-time COA auditors in the MWSS complex, and the result of their audit is subject to the detailed review by the central COA office. The chief resident auditor rotates out every 3 years.

The loan agreements with ADB require that MWSS's financial statements be audited annually by independent auditors acceptable to ADB. The COA is considered satisfactory. MWSS must also furnish to ADB unaudited financial statements within four months and audited financial statements within nine months after the end of the fiscal year. This has been met except for FY 1993, when the release of the audited financial statements was delayed until December 1994 because of the need to restate them to reflect a change in the format of the new statement of cash flows. The loan agreements with IBRD have similar provisions in relation to the audit and the release of the audited financial statements. The Annual Report MWSS prepares mainly for the external audience usually comes out more than one year after the year end.

Five-year comparative financial statements are as shown in the next few pages (in million pesos hereinafter, unless otherwise noted):

Table 5.2.1 Comparative Income Statements

Account	1990	1991	1992	1993	1994
Revenues:					
Operating revenues:					
Water services	1,975	2,406	2,617	2,901	3,081
Sewer services	178	227	271	291	307
Environmental charges	198	241	262	289	308
Maintenance service charge	14	14	15	15	16
Incidental revenue	28	77	80	72	62
Total operating revenues	2,393	2,965	3,245	3,568	3,774
Interest	408	387	340	270	331
Total revenues	2,801	3,352	3,585	3,838	4,105
Expenses:					
Operating expenses					
Personnel	507	569	567	689	824
Water treatment chemicals	64	83	102	85	78
Illumination and power	124	152	151	154	199
Sundry	193	198	250	289	312
Total operating expenses	888	1,002	1,070	1,217	1,413
Non-cash expenses:					
Depreciation	342	375	623	623	900
Allowance for bad debts	47	58	63	70	74
Other	3	3	3	3	3
Total non-cash expenses	392	436	689	696	977
Finance charges:					
Interest expenses	514	611	433	589	682
Forex difference	216	234	199	214	366
Total finance charges	730	845	632	803	1,048
Total expenses	2,010	2,283	2,391	2,716	3,438
Net income	791	1,069	1,194	1,122	667

Table 5.2.2 Comparative Balance Sheets

Account	1990	1991	1992	1993	1994
Fixed assets:					
Cost	18,241	21,226	26,977	34,351	33,058
Accumulated depreciation	3,647	4,370	12,003	13,426	14,089
Net fixed assets	14,594	16,856	14,974	20,925	18,969
Construction in progress	4,058	5,462	6,518	6,124	6,781
Current Assets:					
Cash	2,364	2,649	2,745	3,398	3,413
Accounts receivable	1,083	1,321	1,309	1,416	1,569
Allowance for bad debts	-285	-343	-405	-474	-548
Other receivables	170	172	576	155	125
Inventories	608	605	652	625	573
Total current assets	3,940	4,404	4,877	5,120	5,132
Other assets:					
Prepayments & deposits	360	431	347	265	239
Sinking fund	40	101	212	296	319
Miscellaneous	68	54	247	322	354
Total other assets	468	586	806	883	912
Total assets	23,060	27,308	27,175	33,052	31,794
Long-term liabilities:					
Foreign loans payable	6,407	6,364	6,600	7,590	6,547
AWSOP bonds	690	1,150	1,380	1,315	1,217
Domestic loans payable	40	400	400	3506	250
Government loans	400	374	374	374	374
Depository liabilities	7	6	6	7	5
Total long-term liabilities	7,544	8,294	8,760	9,636	8,393
Current liabilities:					
Accounts payable	581	683	722	726	693
Public and private trust fund	335	221	213	228	247
Current maturity of loans		109	106	120	118
Deferred credit	3	3	6	3	4
Total current liabilities	919	1,016	1,047	1,077	1,062
Equity:					
Capital stock	4,916	5,076	5,518	5,524	5,723
Donated surplus	56	56	376	376	376
Government subsidy	16	166	245	314	323
Grant-in-aid					24
Appraisal surplus	7,043	8,832	6,136	10,111	8,578
Sinking fund reserve	41	101	212	267	290
Contingent surplus		2	1	40	40
Retained earnings	2,525	3,765	4,880	5,707	6,985
Total equity	14,597	17,998	17,368	22,339	22,339
Total liabilities and equity	23,060	27,308	27,175	33,052	31,794

Table 5.2.3 Comparative Statements of Cash Flow

Account	1990	1991	1992	1993	1994
Capital expenditures:					
Foreign assisted projects	1,539	1,963	1,625	1,117	722
Locally funded projects	64	81	103	96	102
Total capital expenditures	1,603	2,044	1,728	1,213	824
Financial disbursements:					
Debt service payments	2,511	1,903	1,892	2,037	2,309
Cash dividends				50	
Total financing expenditures	2,511	1,903	1,892	2,087	2,309
Total cash disbursements	4,114	3,947	3,620	3,300	3,133
Financing receipts:					
Equity contribution	1,252	104	20	472	177
Foreign grant					25
OECF equity		8	13	10	22
AWSOP bonds	460	460	230		
DBP notes	40	360			
Foreign loans	603	834	1,032	864	348
Government net lending		2	1	-1	32
Total financing receipts	2,355	1,768	1,296	1,345	604
Internal cash generation:					
Operating receipts:					
Collection of water and sewer	2,168	2,604	2,915	3,235	3,480
Subsidy for customs and duties	10	155	79	69	9
Miscellaneous receipts	490	719	498	369	456
Total operating receipts	2,668	3,478	3,492	3,673	3,945
Operating cash disbursements	866	1,014	1,072	1,065	1,401
Net internal cash generation	1,802	2,464	2,420	2,608	2,544
Total cash receipts	4,157	4,232	3,716	3,953	3,148
Increase in cash	43	285	96	653	15
Cash, at beginning	2,321	2,364	2,649	2,745	3,398
Cash, at end	2,364	2,649	2,745	3,398	3,413

2.1.2 Significant Accounting Policies and Principles

(1) General Accounting Policies

MWSS adopts the accounting policies that have been established and regulated by the COA. Except for those mentioned specifically, such accounting policies appear to be in conformity with those being followed by standard utility companies internationally.

(2) Foreign Currency Transactions

Foreign currency assets are stated using the historical forex rate except for construction in progress which is stated based on the year-end forex rate. Foreign currency liabilities are also stated using the said forex rate. Any differences resulting from the year-end conversion to pesos are not reflected in the income statement but directly charged to retained earnings.

The additional repayment requirements over the recorded loan amounts (called forex difference cost) resulting from changes in exchange rates is included in the income statement as payments are made.

(3) Fixed Assets

Acquisition cost of fixed assets except for administration equipment and investigation and survey is adjusted every year for inflation (appraisal increase).

Fixed assets are depreciated over the estimated useful lives using the straight-line method with 5 percent residual (scrap) value. Appraisal increase is also subject to the same depreciation method, and the expense is likewise charged to income for the year. At the completion of the useful lives, the remaining net appraisal increase is offset against the appraisal surplus. The estimated useful lives have been established by MWSS internally, and they appear to be more or less in line with those used by water utility companies internationally.

(4) Construction in Progress

Personnel expenses (such as construction workers' salary) and other operating expenses spent directly on projects are capitalized. Indirect expenses are allocated to projects based on the total

direct expenses and are also capitalized.

Interest during construction is capitalized. Disbursements made in advance for projects are temporarily included in other assets, not under construction in progress.

(5) Accounts Receivable

Allowance for doubtful accounts is provided at 2 percent of gross billing. Accounts deemed uncollectible are transferred to other assets rather than written off.

2.1.3 Accounting for Sewerage/Sanitation Operations

Comparative income statements for the sewerage operation are shown below:

Table 5.2.4 Comparative Income Statements for Sewerage/Sanitation Operation

Account	1990	1991	1992	1993	1994
Revenues:					
Operating revenues:					
Sewer services	178	227	271	291	307
Environmental charges	198	241	262	289	308
Incidental revenue	1	8	1	1	1
Total operating revenues	377	476	534	581	616
Interest	0	0	0	0	0
Total revenues	377	476	534	581	616
Expenses:					
Operating expenses					
Personnel	74	94	100	112	100
Water treatment chemicals	0	0	1	0	0
Illumination and power	10	11	12	15	22
Sundry	24	31	35	47	30
Total operating expenses	108	136	148	174	151
Non-cash expenses:					
Depreciation	90	100	159	175	123
Allowance for bad debts	7	9	10	11	12
Total non-cash expenses	97	109	169	186	135
Finance charges:					
Interest expenses	138	161	116	149	124
Forex difference	43	40	37	62	61
Total finance charges	181	201	153	211	185
Total expenses	386	446	470	571	472
Net income	-9	30	64	10	144

The Sewerage Accounting Section was established in the Accounting Department in 1982 based on a loan covenant with IBRD.

The Sewerage System Department (SSD) has its own bank account, and all the expenses directly attributable to it are paid out of this account. In addition to these cash operating expenses including personnel, depreciation expenses of the sewerage facilities and allowance for bad debts are directly charged to the SSD. A third kind is apportioned expenses, an allocation of overhead from the main (water) account.

During 1983 to 1987, the allocation rate was 12 percent on all expenses. In 1988 a separate bank account was opened for the sewerage transactions for payments of direct operating expenses. The allocation of overhead also started then, using the ratio of water and sewer revenue on a monthly basis, the effective rate being around 18 percent. Further, in accordance with a recommendation made by an IBRD consultant in 1993, the allocation rate of overhead for FYE 1994 changed to that based on such factors as shown below:

Customer services function:

$$\frac{\text{No. of sewer connections}}{\text{No. of water and sewer connections}} = \frac{90{,}015}{878{,}438} = 10.25\%$$

Administration function:

$$\frac{\text{SSD personnel + Sewerage acct' g personnel}}{\text{Total MWSS personnel - Project personnel}} = \frac{387 + 10}{8{,}334 - 1{,}999} = 6.26\%$$

Finance function:

$$\frac{\text{Financial Area personnel - Sewerage acct' g staff}}{\text{Total MWSS personnel - Project personnel}} = \frac{454 - 10}{8{,}334 - 1{,}999} = 7.00\%$$

Construction function (locally funded projects):

$$\frac{\text{No. of sewer connections}}{\text{No. of water and sewer connections}} = \frac{90{,}015}{878{,}438} = 10.25\%$$

These allocation rates are lower than those used before 1994, which is the cause for the improved operating results in the sewerage operation in 1994.

The break-down of direct and allocated overhead expenses is shown in the following table: