 Serial No……

Institute of Certified Management Accountants of Sri Lanka
Level 5 – November 2016 Examination

Examination Date :	27th November 2016	**Number of Pages :**	15
Examination Time:	1.30 p:m. – 4.30 p:m.	**Number of Questions:**	08

Instructions to candidates:

1. Time allowed is **three (3) hours.**
2. Attached to the question are **Scenario I** given in advance and **Scenario II**
3. The answers should be given in **English language.**

Subject	Subject Code
Integrative Case Study	**(ICS – 501)**

Question (100 Marks)

Sri Lankan Pipe Water Industry and the National Water Supply and Drainage Board

You are required to:

1. **Discuss** major challenges to be faced when National Water Supply and Drainage Board (WB), a social welfare oriented concern is converted into a commercial oriented industry. **(10 Marks)**

2. **Explain** the value chain of WB and **critically evaluate** the ways by which the value can be increased (you may use hypothetical numbers to describe your answer). **(15 Marks)**

3. **Assess** the impact of new billing system on the profitability of WB and suggest if any alternative ways of improving performance of WB. **(15 Marks)**

4. **Assess** the suitability of Public Private Partnership for WB with respect to the following areas. **(10 Marks)**
   (i) Expansion of Water Supply and provision of services.
   (ii) Capacity Development.

5. **Discuss** the significance of Non- Revenue Water (NRW) to WB and ways in which NRW can be reduced by highlighting the practicality of each point. **(15 Marks)**

6. **Critically evaluate** reasons as to why reforms introduced by the WB from time to time were not successful and could not improve performance as planned. **(10 Marks)**

7. In an event of tariff increase, **ascertain** the amount by which the revenue estimates for 2017 can be increased and **discuss** on non-financial consequences of this move. **(10 Marks)**

8. Propose two strategic moves that WB can implement with a view to improve the overall performance by 2030 in line with its vision, mission and objectives. **(15 Marks)**

(Total 100 Marks)

Sri Lankan Pipe Water Industry and the National Water Supply and Drainage Board

Scenario I

Introduction

National Water Supply and Drainage Board (WB) is a monopolistic semi government supplier of water resources in Sri Lanka with the vision of becoming the most prestigious utility organization in Sri Lanka through technological and service excellence. Mission of WB has been set out as to serve the nation by providing sustainable water and sanitation solutions ensuring a total user satisfaction delivered. The principal activity of the WB is to produce and sell treated drinking water to the community. WB was established by enacting the National Water Supply and Drainage Board act of 1974 which was subsequently amended in 1995. The work force of WB is approximately around 900 managerial employees and 2,100 non managerial employees. WB has 312 water supply schemes throughout the country to deliver its services. WB produces 1.5 million cubic meters of potable water every day. At present, there are 16 key divisions at operating Island wide and names of which are given in table 1.

Table 1: Key Divisions at WB

Corporate Services	Human Resource Management
Information Technology	Mechanical and Electrical
Training Division	Research and Development
Planning and Design	Policy and Planning
Finance and Costing	Commercial Activities
Supplies	Laboratory
Sewerage	Japanese Project Unit
Workshop	Corporate Planning

WB caters to domestic households, Industries, Schools, Condominiums, Public Stand Posts, Government Institutions, Hospitals, Colombo Municipal Council remises, Commercial Institutions, Shipping Agencies, Construction Industry, Bard of Investment, Housing Authority and Bowser Supply Markets. Major supply sources of water include piped water supply, small rural water supply systems using natural springs, protected dug wells, Tube wells, hand pump installations and Rain Water Harvesting.

Primary functions of WB include, identification of the "unserved", especially those prone to health problems, preliminary Investigations, Planning, Design and Construction of Water Supply and Sewerage Projects, Study all possible options and carry out feasibility studies, Comprehensive analysis, cost estimation & Environmental Impact Assessment of projects, Operation and maintenance of Water Supply and Sewerage Schemes to provide satisfactory service to customers, Billing and Collection through affordable tariff setting.

No matter whether business organizations are public enterprises or private sector organizations and operate in whatever market structures, they all face more or less the same challenges that are posed by technology driven dynamic business world. Technology has created a lot of threats as well as ample opportunities for players in the market. Advancements of technology have enabled any customer to place orders online and buy most of products available around the world instead of physically visiting shops thus expanding the boundaries of operations of business organizations. On the other hand, the same technological advancements have made many products outdated and send them off the market within a short period of time thus urging managers to take prompt actions and strategize accordingly to overcome the situations and survive.

Wants and desires of the consumers are always changing rapidly with a wide range of expectations. Consumers are now well educated, knowledgeable and aware of market conditions and changes and as a result it is extremely difficult to deceive them or divert their expectations to what manufacturers want thus leaving only option available for organizations to take measures of catering for them. Consumers have undisturbed access to more information with which they can make decisions or judgments that sometime cannot be predicted. Hence, continuous changes are happening in the business world at varying levels in order to secure their place in the market.

Some organizations that dominated in the past either no longer exist or overtaken by technological advancement. Some organizations have lost the market dominance and now have become insignificant players in the industry or forced out by consumer power. This is a reality for public sector organizations and for not-for-profit organizations as well. As a result, public sector organizations have already taken measures to go along with technological advancements and introduced some changes. For examples, registration of motor vehicles department of Sri Lanka and the department of immigration and emigration have introduced improved business processes with the help of advanced technologies. In terms of efficiency of serving customers and the quality of services provided, those two departments referred above have been able to create value as a key element of the management processes thus allowing them to expand their capacities to grow and achieve high expectations and public services. Nonetheless, it is a big challenge for public sector organizations to interface with different activities and appropriate technologies to create value for various stakeholders.

With complexities prevailing in the operations of public sector organizations, it is not that easy to implement effective control mechanisms to assure smooth operations and sustainability. Establishing control systems passes through various stages such as formation, selection, implementation and evaluation of organization strategy and dealing with resources allocation and information that captures financial and non-financial perspective of both internal and external environments. The level of difficulty further aggravates when performance measurement and rewarding systems are designed in public sector organizations.

Water supply is still the cheapest commodity provided by the public sector in Sri Lanka. In 1948, the main sources of drinking water in Sri Lanka were unprotected wells, rivers, tanks and canals. Pipe born water was available only to a limited section of population in urban centers such as Colombo and Kandy. The severity of water borne diseases such as dysentery, cholera, typhoid and hepatitis was very high in the past mainly due to inadequacy of safe of water and sanitation facilities.

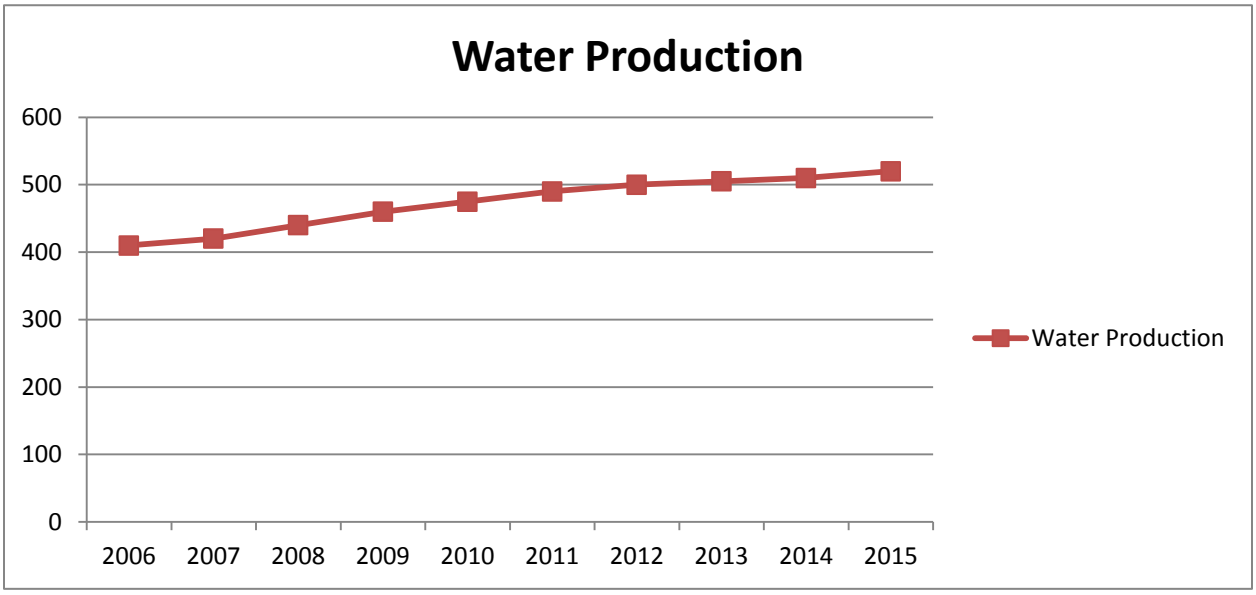
From 1948 to 1960 the responsibilities of water supply had been given to the Public Works Department (PWD) under the Ministry of Transport and Works. Limited budget availability, lack of engineering and technical skills, lack of planning and shortage of materials were the major issues faced by PWD when supplying water resources. Subsequently, the Choksy Commission Report in 1960 recommended then government to establish a central water resources board. Responsibilities of development and management of water Supplies, Sewerage and Surface Drainage Schemes were proposed to be under this agency.

Department of Water Supply and Drainage (DWSD) was formed in 1961 under the Ministry of Local Government with the objectives of increasing water supply to the nation, raising standards of health of people and prevention of the spreading water born diseases. However, targets were not achieved as expected mainly due to inadequate and capable human resources. With a view to address the prevailing problems and to enhance the services, National Water Supply and Drainage Board (Sri Lanka Water Board) was then established under the National Water Supply and Drainage Board (WB) Law no 2 of 1974.

Water Production and Cost of Production

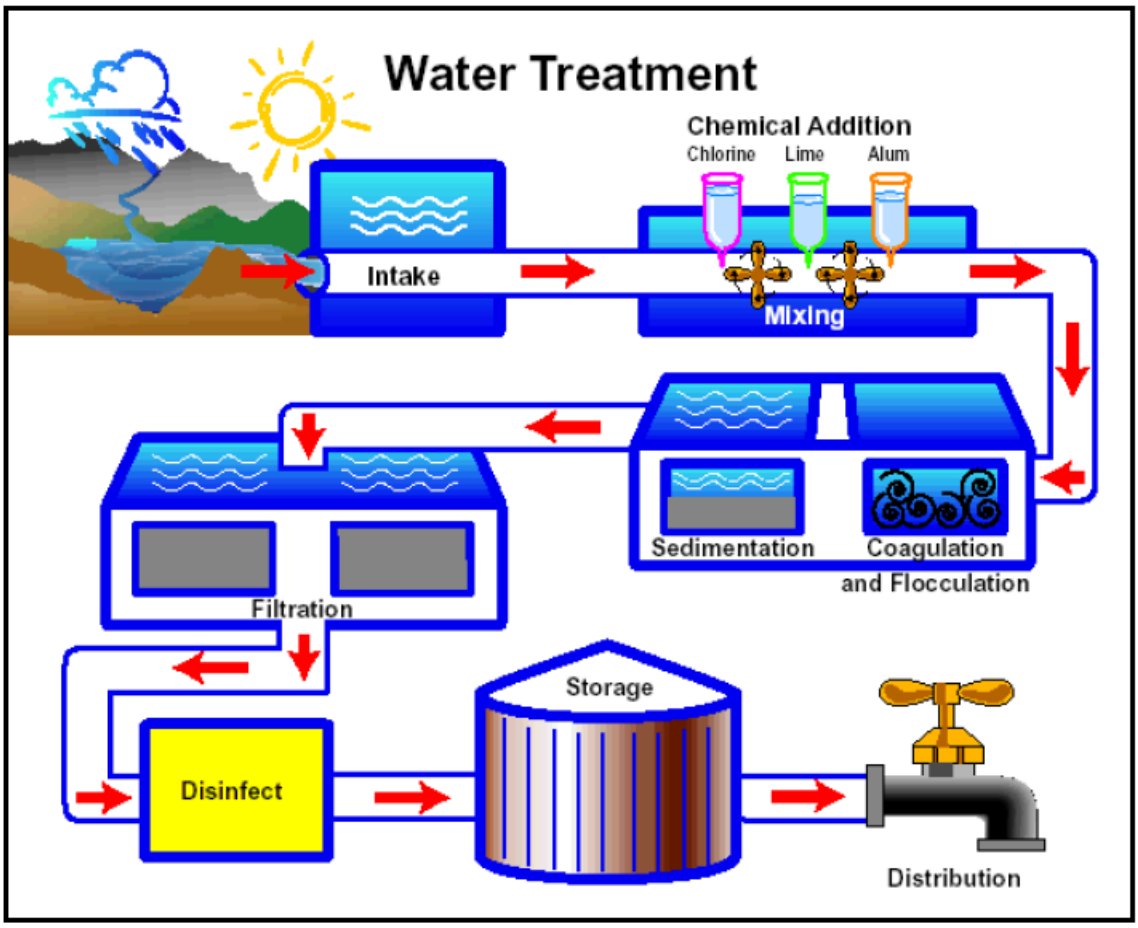
Despite the fact the WB has been increasing its water production; it is inadequate to meet the ever increasing demand for dirking water in Sri Lanka. Present annual water production of WB is more than 500 million cubic meters. Western Province region itself produces about 60% of total water production through four centres at Ambatale, Labugama, Kalatuwawa and Kandana in Kalutara. Figure 1 depicts how water production of WB was increasing over time.

Figure 1: Water Production in millions of Cubic Meters over 10 years



Technology plays an important role in the production process. Various stages can be seen the production process. Figure 2 shows a simplified production process starting from water capturing up to distribution level.

Figure 2: Water Treatment Process at WB



Additional demand for water per day by 2020 has been forecasted to be around 820,000 cubic meters. Per capita water consumption has been ascertained as 165 letters per day after adjusting 25% allowance for NRW. Further, WB planned to increase the served population by 5 million by 2020. Table 2 gives a comparison of water sold and revenue collection under different customer categories. WB has been taking measures to increase water supply connection with a view to increase the revenue to provide adequate drinking water to the public.

Table 2: Proportion of Water Sold and Revenue Collection

	% of Water Quantity Sold	% of Revenue Collected
Direct House holds	65.0	46.8
Schools	1.4	0.8
Tenement Gardens	3.3	2.3
Public Stand Post	0.7	0.3
Government Institutions	10.8	18.3
Commercial and Industrial	10.1	22.7
Tourist Hotels	0.7	1.5
Shipping	0.1	0.6
Board of Investment	2.3	3.6
Religious Places	1.3	0.8
Bulk Billing	3.3	1.5
Others	1.0	0.8
	100.0	100.0

Organizational Structure

Official records of WB reveal that the majority of board members are nominees from other ministries and government organizations. Management team is headed by the general manager and consists of eight additional general managers, 17 deputy managers at divisional level and 11 deputy managers at provincial level and 11 assistant general managers. Majority of managers are engineers and this organizational structure of appointing engineers to key managerial positions is a practice from its inception. Starting from 2009, WB is operating through 11 Regional Support Services (RSCs) in the country. RSC is headed by a Deputy General Manager (DGM) who works in cooperation with the head office by ensuring the delivery of a better service to customers. Dominance by engineers at WB is a calculative practice willingly or unwillingly accepted and everyone is aware of. Following citation from DGM finance made at a high level meeting implies how embedded the influence of engineers at WB. He ironically said that "we are just here to prepare financial statements and make payments".

Non-Revenue Water

Revenue loss due to water loss at WB is very significant. This loss is measured as the difference between the water quantity produced and the quantity billed for. This is termed as non-revenue water (NRW). Current level of NRW is approximately 30% of total production and the WB intends to reduce it in Colombo areas by 4.0% during the period of 2016 – 2020. NRW results mainly due to water theft, supply of free water, administrative errors and water leaks. Possible measures were taken by the WB over time to reduce the waste but statistics show that, WB is able to bill roughly about 70% of what it produces at present. Table 3 indicates that NRW percentage has been declining slightly over a period of ten years.

Table 3: Non- Revenue Water Percentage from 2005 to 2014

Year	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
(NRW) %	30	29	30	30	31	32	33	34	33	34

Institutional Capacity

Institutional capacity of WB really matters in providing efficient services to the public. Institutional capacity has been defined by World Bank (2004) as the ability of an institution to decide on and pursue its goals, to perform tasks, and to improve performance constantly. General perception on institutional capacity of public sector organizations specially in developing counties it is negative and it had been found, based on an opinion survey conducted in the recent past that the general perception of WB is also highly negative. Reports issued by the Committee on Public Enterprises (COPE) reveal that some weaknesses in regulatory practices, a low level of public accountability, administrative inefficiencies and insufficient cash flows generated by operating activities were seen at WB.

Distribution of Water Resources

Distribution of water incurs significant cost to the WB as the network has to be laid right throughout the service area. For examples Colombo Municipal Council area has 927 km of distribution networks to serve 700,000 customers, whereas Kandy Municipal Council has 350 km to serve 40,000 customers. The distribution cost comprises of both fixed and variable costs. Fixed cost to be incurred to provide water facilities to a one household family ranges from Rs 190,000 to 340,000. Cost of production of 1000 liters of water (A unit of one cubic meter) is approximately Rs. 45.

Total cost comprises of recurrent cost, interest costs on commissioned projects and depreciation. However, the cost of production for managerial information purpose is ascertained by dividing the total cost by total number of units sold. Composition of production cost further reveals that employee related costs account for 50% of total cost. The proportion of each type of cost by its nature is given in table 4 below.

Table 4: Proportion of Cost of Production

Cost Type	%
Employee Related Cost	50
Electricity Cost	20
Chemical Cost	5
Repair and Maintenance Cost	5
Establishment Cost	12
Other Cost	8
	100

Government Support

Being a public sector entity and owing to the nature of products and services offered, WB gets considerable amount of financial and other supports from government. Government's direct supports and indirect supports from dormer agencies have been given to invest in different projects relating on water supply and sanitation. However, the effectiveness of how these funds has been questioned at many forums. As a result, top management and political authorities are trying to find out the areas where the effectiveness of funds utilizations is under threat and are concerned as to how the quality of services can be improved. Recent audit reports have also stated that there are many weaknesses in the implementation of projects and internal controls systems. This questions whether the project objectives have been achieved effectively.

Despite the fact public enterprises are to cater for general public in many ways, there is general perception that the public sector organizations are inefficient and ineffective in using limited resources, and in turn they become burden to the government. Reforms and restructuring process have therefore become popular as a solution to overcome this issue and to assure the public interest is catered for. Committee on Public Enterprise (COPE) has criticized public enterprise for alleged absence of good governance practices, delays in submission of accounts, carrying out uneconomical transactions and mismanagement of funds, non-compliance with financial rules and regulation, non-adherence to accepted tender procedures, accommodating political interference, delays or failures in responding to the committee directives, provision of poor services to customers and misuse of resources.

The design of Water Supply Projects is carried out at different stages. At the investigation stage, community identifies their requirements. During the final designing stage, proposed options are considered with total community agreement. Project proposal for the sanitation program, environmental program and hygiene education program are then developed in parallel to the implementation of water and sanitation projects. Following sociological tasks and responsibilities are also considered before implementing projects.

- Socio-Economic Feasibility Studies.
- Diagnostic survey of issues raised at the community level.
- A need based demand responsive approach couple to participatory management.
- Organizing Public Awareness on issues based and location specific program.
- Stakeholder consultation.
- Grievance handling.

Reforms: Year 1980-1990

WB represented Sri Lanka at the official launching of the United Nations International Drinking Water Supply and Sanitation Decade at a special Session of the General Assembly in New York in 1980. Delegates pledged the support for Sri Lanka for providing safe water and adequate sanitation for everyone by 1990. WB took this declaration seriously and was dedicated to align its operations to achieve this task. In terms of providing adequate and safe water, WB paid more attention on rural areas where the general public is by and large denied the access to proper water sources. Subsequently, a massive awareness programme was launched all over the country on the subject of prevention Water Wastage with the help of UNICEF. A poster Competition was also held among school children with the assistance of Ministry of Education. A Trophy presented by UNICEF was given to the School that produced the best posters, and cash prizes were given.

World Bank requested WB to fix meters for each and every connection and the WB was able to do that subsequently. This task created a different perception of general public on the services provided by the WB. Idea of the donor agent was to inculcate the commercial aspects in the mind of the consumers instead of viewing water supply as a free good. It was strategized to create a good public image by bringing the message that the reforms are introduced with a view to provide better and efficient water supply with a minimum cost. More publicity of the WB activities was given over TV, Radio and press in 1983 and the WB was able to implement the system of water charges from 1984. In addition, the propaganda of publicity aimed to highlight the importance of conserving water resources and minimizing water wastage. Based on a special directives from the political authority it was decided to provide the first 10 units of water consumed free of charge to all domestic consumers and to give a 90% rebate to water bills of all religious and worship places and Government approved charitable institutions.

On the other hand, discussions were held as to how the revenue collection could be streamlined and increase the level of revenue after implementation of this new meter policy. WB issued directives to disconnect the supply line of water to commercial consumers as a first step, if they do not pay within a reasonable period of time. Disconnection was said to have to been applicable to domestic consumers too if they do not respond to the appeals made in the Press, Radio, and TV within a reasonable time. Review on performance by referring to the UN Declaration WB stated that it was able to provide the people with safe and adequate water to entire urban sector and about 90% of the rural sector by 1990.

Technology was brought in to the accounting system and new procedures were introduced in 1981 and as a result preparation of salaries and regularizing the submission of reports from regional offices were enhanced. Billing and Stock control functions were too computerized. However, due to practical reasons such as non-availability of funds and trained human resources, it was not possible to implement in-house computerized information system at WB instead it was outsourced. Among the human resource issues, the inability to recruit competent qualified accountants and accounts assistants was highlighted as a major problem. There was a Financial and Management consultant to the WB, who assisted the implementation of the new systems and procedure after gaining required training from abroad. All finance related functions are under the purview of the Additional General Manger (Finance). These functions include procurement of raw materials, capital equipment, contract payments, remuneration for services, payroll, terminal benefits, loan repayments, annual accounting and balance sheet preparation. The change financial system resulted followings:

(i) Installation and maintenance of water measuring equipment for bulk supply area.
(ii) Installation of proper costing system for each distribution scheme and maintenance of separate account for each project.
(iii) Proper reorganization of the accounting and financial systems.
(iv) Implementation of Tariff Study scheme.
(v) Prompt settlement of bills rendered by the Board to Local Authorities.
(vi) Maintenance of records adequate to note the progress of the project (including the cost) and to identify the goods and services financed out of the proceeds.
(vii) Obtain proper valuation of fixed assets to base costs of sales in accordance with prescribed percentages.

Computerized billing and collection systems designed was implemented by the end of 1985 with a field testing in the Moratuwa unit office-one of the six decentralized billing offices established under the project in greater Colombo. Financial procedures were further modified and updated as per the needs and cost control at the scheme level was implemented at the first time in 1987 by using a computerized financial information system. Computerized system has the facility of comparing budgets with actual on a monthly basis. With a view to enhance the internal efficiency, the management decided to expand the internal audit function.

In 1982, Statistics and Co-ordination Division was established and the responsibility of this division is to maintain up-to date information of water supply schemes maintained by the WB and monitor progress of scheme under construction, the other duties being the preparation of the annual implementation programme for submission to Government and monthly and quarterly reports to the Ministry on the physical and financial progress of each scheme.

In 1983, Project Division was established with the help of World Bank, International Development Agency (IDA), and Saudi Government. The main function of this division is to compile and disseminate up to date information pertaining to water supply, Drainage and Sewerage schemes in the Island and to monitor progress of such construction scheme undertaken by the WB.

With reference to NRW, a leak detection study was started in grater Colombo area in 1984 with an objective of completing by September 1985. The consultants from USA and Norway were appointed for this study. In addition, the Government of Sri Lanka requested financial assistance from ADB for a Water Supply and Rehabilitation Project. The ADB approved this as a technical assistance grant and sent two consultants to work with the WB. The primary objective of the project was to provide an adequate safe and reliable water supply service in the 30-40 schemes considered for rehabilitation, and increase revenue by reducing NRW.

Many changes were seen in 1985 with the implementation of a USAID funded programme for institutional development with the main objective of improving the operating efficiency of the WB. Accordingly, the WB expected to increase the water access to more people all over Sri Lanka in a technically efficient and cost effective manner thus improving the operational efficiency in all functional areas. These functional areas included personnel, administration, operation, maintenance, finance, commercial, planning, and design sectors. Accordingly, new personal policies, financial responsibilities and schemes of recruitment were developed. Further, it was emphasized on the importance of training and development of human resources on continuous basis.

Reforms: Year 1991-2000

ADB project was designed and implemented in 1991 to improve the operational efficiency mainly by focusing on controlling cost and improving revenue collection. Establishing water accountability, reduction of non-revenue water and improvement of cost recovery are the means of achieving the above objective. Further, it was decided to have physical rehabilitation and improved operation and maintenance, and safeguard of property plant and equipment.

The first corporate plan was introduced by WB for the period of 1996-2000 with the main aim of ensuring a satisfactory supply of water to the public while keeping the operational costs at minimum. Thus, International funds for various projects to address this problem were implemented. Rehabilitation and augmentation of existing schemes and launching preventive maintenance programmes contributed for achieving higher level of service. Installation of new bulk meters repairs to existing bulk meters, greater Colombo distribution reinforcement work, improved leak detection program in greater Colombo area, formation of consumer societies for standpoints and supply of leak detection equipment were implemented with the help of ADB.

Subsequently, a master plan was prepared for water supply covering 11 districts under the assistance of USAID. WB was further strengthened during 1992 by providing more staff and improved facilities. New regional office was opened in Hambantota in order to further decentralize and strengthen the services to consumers. Apart from the improvements aimed at customers, internal changes were also focused under this new project. Accordingly, skills and capability development and attitudinal changes of employees were recognized as important aspects for improvement. Decentralization of administrative functions was further expanded. Financial autonomy and independence of operational activities were more relaxed to regional offices to provide a better service to the consumers in the respective areas. Many donor agencies namely IDA, ADB, French Government, GTZ/German, DADINDA, FINNIDA, PR/China, OECF/Japan, SUDI, JBIC, KFW, AUS, and NORAD extended their financing during this period. Major areas of those reforms introduced during the period of 1991-2000 are listed below.

- Rehabilitation of existing water supply schemes.
- Reduction of NRW.
- Community awareness and education.
- Rural water supply and Sanitation.
- Improving better financial management.
- Staff training.
- Water supply and sanitation Rehabilitation.
- Water supply projects.
- Small town water supply project.
- Planning and Design.

The implementation of those projects resulted a huge increase in water supply related costs. On the other hand it was noted that the total water related cost has significantly increased by 430% during the period from 1990 to 2000. The increase in repair and maintenance cost element accounted for 777% whereas the lowest growth of cost of 320% was seen in Chemicals. Table 5 gives a summary of cost elements and the percentage increase of each element during the period from 1990 to 2000.

Table 5: Elements of water related costs from 1990 to 2000

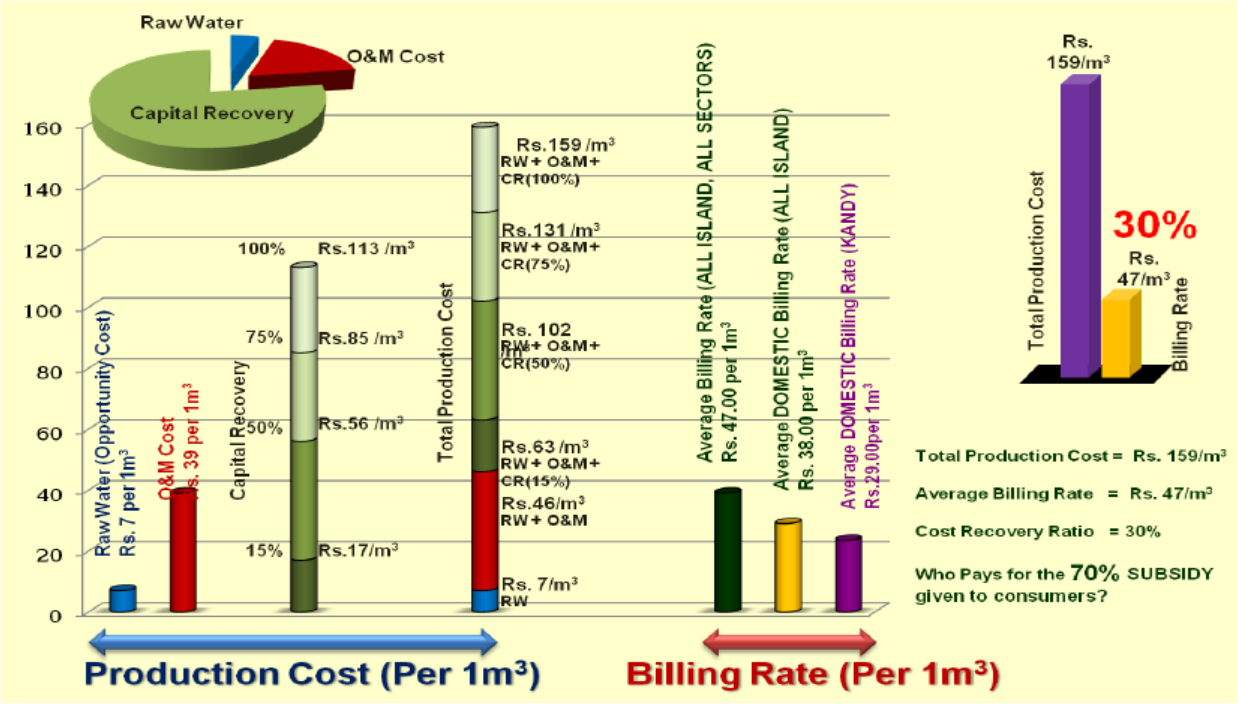
Cost Element	Rs. Million		Growth Rate
	1990	2000	
Employee Related Cost	146	767	425%
Electricity Cost	146	720	393%
Chemicals	30	126	320%
Repair and maintenance Cost	13	114	777%
Administration Cost	67	398	494%
Other Costs	24	136	467%
Total water related costs	426	2,261	430%

Reforms 2001 onward

Restructuring of WB was further expanded in 2007 and as a result, three operational zones namely, western, Southern/Eastern and Northern/Central were identified. Four strategies, namely, Regional Benchmarking, Human Resource and Capacity Development, Human Resource and Capacity Development, and Internal Monitoring and Regulation were also introduced with the new restructuring. This strategy was a major one in terms of decentralization of operational functions and administration. The design was properly done but lots of obstacles appeared at the implementation levels. However, it was not possible to implement the decentralization programme as planned mainly due to pressure from trade unions, political influences and social and organization culture.

Amidst lots of capital investments to improve the operational efficiency, WB still has a high production cost compared to billed revenue. Figure 3 illustrates how significant the cost of production, its connection to billing and other areas of concerns.

Figure 3: Production Cost and Billing Rate



New Billing System

The New method of billing to customers results the delivery of the bill on the day of meter reading. However, the revenue collection was outsourced to private sector. Revenue is collected based on monthly bills delivered. The outsourcing of billing system expected to improve the efficiency of revenue collection thus enhancing financial management and customer services. Table 6 given selected information on billing, collection, collection efficiency.

Table 6: Water Billing and Collection Efficiency

		2011	2012	2013	2014
Total Billing	(Rs.'000)	13,343,141	15,087,569	18,166,515	19,785,279
Total Collection from Sale of Water	(Rs.'000)	13,209,254	14,716,366	18,365,794	19,870,961
Total Operating Income	(Rs.'000)	16,051,105	18,624,033	21,172,586	23,386,877
Total Recurrent Expenditure	(Rs.'000)	11,020,912	13,661,191	15,363,169	16,957,203
Recurrent Expenditure / Billing		0.83	0.91	0.85	0.86
Collection Efficiency		0.99	0.98	1.01	1.00

Billing charges are discriminative and influenced by various government policies and tariff inclusion. Billing system for households follows progressive charges and Samurdhi beneficial are given additional concessions when billing is made. Both usage charge and fixed charge significantly increases when the level of consumption increases. Structure of billing for non Samurdhi households based on consumption ranges is given in table 7 below.

Table 7: Present Billing Chart for households

Domestic Households Bill from Formation (Non-Samurdhi Customers)				Bill Amount *	Average Billing Rate per unit
Consumption Range		Usage Charge per unit (Rs.)	Fixed charge (Rs.)	(Rs.)	(Rs.)
A	0-5	12	50	110	22.00
B	6-10	16	65	205	20.50
C	11-15	20	70	310	20.67
D	16-20	40	80	520	26.00
E	21-25	58	100	830	33.20
F	26-30	88	200	1,370	45.67
G	31-40	105	400	2,620	65.50
H	41-50	120	650	4,070	81.40
I	51-75	130	1,000	7,670	102.27
J	76-100	140	1,600	11,770	117.70

Present Situation of WB

Despite various strategies and reforms introduced, WB could not produce satisfactory performances. Net cash flows generated from operating activities are not adequate to meet cash flow needs of WB. The results over last 10 years show that WB was reporting continuous losses though the results slightly improved in the recent years. Retained earnings of WB at the end of year 2014 were more than Rs.10 billion. However, it is noted that WB has strong asset based though some doubts can be raised as to its utilization and effectiveness. One of the concerns pertaining to property, Plant and Equipment is that WB has proper titles with deeds only for 40% of the lands and the rest is being used for very long period without title deeds and the process of securing the deed is ongoing. Selected information has been summarized in Table 8.

Table 8: Performance of WB during last ten years

Measures \ Year	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Profit after tax (Rs. Billion)	1.00	0.37	0.42	(6.00)	(1.43)	(2.91)	(1.28)	(0.04)	(0.09)	(0.84)
Net Cash from operating (Rs. Billion)	2.28	5.54	5.26	1.07	3.51	(3.11)	(1.17)	0.36	(0.51)	0.78
Total Assets (Rs. Billion)	244	223	193	164	149	130	114	104	89	76
Interest cost (Rs. Billion)	1.04	1.03	0.94	1.41	2.04	1.76	1.61	1.32	1.1	0.94
No of connections in million	1.7	1.58	1.44	1.34	1.27	1.19	1.08	1.00	0.91	0.84

WB has an asset base of over Rs.280 billion and of which over 80% has been financed by equity at the end of year 2014. Breakdowns of total and assets and equity and liabilities extracted from financial statements are given in table 9 and table 10 respectively.

Table 9: Breakdown of total Assets as 31st December 2014 with comparatives

National Water Supply And Drainage Board

STATEMENT OF FINANCIAL POSITION

Year ended 31 December 2014

		2014	2013
		Rs.	Rs.
Assets			(Restated)
Non- Current Assets	**Notes**		
Property ,Plant & Equipment	15	**109,865,635,167**	107,458,091,203
Intangible Assets	16	**52,964,022**	102,025,883
Capital Work in Progress	17	**149,059,338,602**	121,418,014,631
Other Financial assets	18	**22,810,677**	31,008,001
Total Non Current Assets		**259,000,748,468**	229,009,139,718
Current Assets			
Non Operating Assets		**117,895,068**	117,895,068
Inventories	19	**5,623,798,032**	3,876,757,449
Trade & Other Receivables	20	**5,544,274,105**	5,388,788,826
Deposits & Advances	21	**9,530,557,311**	4,286,653,401
Investments	22	**244,262,510**	340,970,189
Cash & Cash Equivalents	23	**2,756,518,649**	1,879,876,757
Total Current Assets		**23,817,305,676**	15,890,941,691
Total Assets		**282,818,054,144**	244,900,081,409

Table 10: Breakdown of Equity and Total Liabilities as at 31st December 2014 with comparatives

Equity			
Assets taken over from Government Dept.	24	**185,480,387**	185,480,387
Staff Welfare Fund	25	**15,239,298**	15,101,490
Retained Earnings		**(10,814,258,221)**	(12,240,036,367)
Government Grant	26	**88,161,757,133**	81,069,995,266
Capital Grants	27	**151,974,122,319**	129,350,331,843
Total Equity		**229,522,340,916**	198,380,872,619
Non-Current Liabilities			
Loan Payable	28	**37,715,434,998**	32,146,717,058
Other Deferred Liabilities	29	**2,194,044,137**	2,152,117,268
Total Non Current Liabilities		**39,909,479,134**	34,298,834,326
Current Liabilities			
Trade & Other Payables	30	**6,961,191,773**	5,246,171,344
Loan Capital Payable		**3,440,617,294**	4,470,617,294
Loan Interest Payable		**2,912,497,278**	2,431,658,078
Non Operating Liabilities		**71,927,749**	71,927,749
Total Current Liabilities		**13,386,234,094**	12,220,374,464
Total Equity and Liabilities		**282,818,054,144**	244,900,081,409

At present WB is considering to strategies and engage in projects to increase the efficiency of operations at all the levels in such manner of creating value to the Nation.

End of Scenario I

Scenario II – A continuation of Scenario I

Among other measures to be taken to improve the quality of operations to serve public, management of WB is concerned about how the non-revenue water percentage can be reduced. Discussions are going on at managerial level and many have supported the idea of getting support from a foreign counterpart to operate in project modes. Management believes that foreign counterpart can bring in advanced technology and superior expertise that they possess. Institutional capacity of WB is considered to be not adequate to meet both present and expected levels of operations. A senior manager says that various measures taken so far have not produces satisfactory results. At present, WB has no any other option except cascading the effect of cost on non-revenue water to consumers.

Efficiency, effectiveness, accountability and governance are major aspects to be focused when responsibilities of WB are discharged. A plan for a strategic move to form public private partnerships (PPP) is also in the pipeline of the agendas of WB. However, this idea is heavily challenged by some young managers on the ground that auditor general has had referred to many weaknesses in the implementation of different projects in the past, internal controls and good governance in 2007 and 2010 audit reports. Public image of public sector organizations has seriously damaged. Public entities are considered to be inefficient and ineffective in terms of resources utilization thus eventually becoming burden to government. On the other hand, public entities including WB are criticized for alleged absence of good governance practices, delays in submission of accounts, uneconomical transaction and mismanagement of funds, non-compliance with financial rules, non – adherence with the accepted tender procedures, political interference, delay or failures in responding to the committee directives, poor services to customers and misuse of resources.

However, WB has decided to expand its service coverage and made a tentative plan on how the coverage will be increased by 2020. Table 1 below gives selected statistics on expected coverage.

Table 1

Year	2017	2018	2019	2020
Estimated Population	21,533,291	21,748,624	21,966,110	22,185,771
Pipe Borne Water Supply Coverage	11,267,999	11,947,369	12,571,294	13,310,865
WB's pipe borne water supply connected coverage %	41.4	44	46.3	49.1
Pipe Born Sewerage Coverage %	2.4	2.7	3	3.3

To some extent people cover up their water needs by rain water harvesting as well. Management is yet to forecast reliably the real need of pipe borne water as. The government too wants to promote Rain Water Harvesting with a view to protect ground water bases. Overall access to safe water is about 89% as of 2016 and it has been forecasted that this percentage will increase to 92% by 2020. How the total safe water access has comprises of is given in table 2.

Table 2: Forecast of total safe water access (%) from 2017-2020

	2017	2018	2019	2020
Total pipe borne water	52.3	54.9	57.2	60
Protected Dug well	33.3	30.9	28.9	28
Tube Wells/Hand Pumps	3.2	3.2	3.2	3.2
Rain Water Harvesting	0.5	0.5	0.5	0.5
Overall Access to Safe water	89.3	89.5	89.5	91.7

Capital investment needed is huge for this kind of industry, irrespective of the mode of financing. Finance director at a meeting highlighted that high per capital investment is required for water resource development and sometime distribution systems are required to be laid down in low density areas. These are major problems in addition to lack of capital.

As far as operating activities are concerned, general view of management and political authorities is that an immediate tariff increase is needed. This is considered to be a part of regular price increase and accordingly a minimum monthly charge of Rs.250/- per connection and a general increase of 25% for every unit have been proposed subject to various concessions which are yet to be decided.

End of Scenario II

CMA INTEGRATIVE CASE STUDY – (ICS – 501)
November 2016 Examination – Marking Grid

	Marks	A	B	C	D	E
1. Management Accounting Sound technical knowledge in Management Accounting	**20**	High level of Management Accounting awareness relating to world examples **17-20**	Good Management Accounting awareness relating to case study examples **11-16**	Some level of Management Accounting awareness relating to few case study examples **10-14**	Low level Management Accounting awareness **5-9**	Lack of Management Accounting awareness **0-4**
2. Application of theories Diverse knowledge clearly applied in an analytical and practical manner in solving the problems in the case study.	**20**	High level of application of theory in an analytical manner in solving problems in the case study **17-20**	Good level of application of theory in an analytical manner solving problems in the case study. **11-16**	Some level of application of theory in an analytical manner solving problems in the case study. **10-14**	Low level of application of theory in solving problems in the case study **5-9**	Lack of application of theory in solving problems **0-4**
3. Identifying key issues Issues to be identified and prioritized in a logical manner with a clear rationale.	**10**	High level of recognition of key issues and these being prioritized logically with a clear rational. **8-10**	Good level of recognition of issues and these being prioritized logically **5-7**	Some level of recognition of issues and these being prioritized **3-4**	Low level of recognition of issues **1-2**	Lack of recognition of issues **0**
4. Decision making skills Ability to recognize and present appropriate alternate solutions and make effective judgment in a logical & rational manner.	**20**	High level of ability to recognize and present appropriate alternate solutions and make effective judgment in a logical and rational manner **17-20**	Good level of ability to recognize and present alternate solutions and make effective judgment in a logical and rational manner. **11-16**	Some level of ability to recognize and present alternate solutions in a logical and rational manner **10-14**	Low level of ability to recognize alternate solutions **5-9**	Lack of ability to recognize alternate solutions **0-4**
5. Logical arguments Ability to communicate effectively with realistic recommendations in a concise and logical manner.	**20**	High level of ability to communicate effectively with realistic recommendations in a concise and logical manner **17-20**	Good level of ability to communicate effectively with realistic recommendations in a concise manner **11-16**	Some level of ability to communicate effectively with realistic recommendations in a concise manner **10-14**	Low level of ability to communicate effectively **5-9**	Lack of ability to communicate effectively **0-4**
6. Communication skills Style and synthesis in evaluation of a good report to higher management.	**10**	High level of combining ideas and experiences in a professional manner using relevant appendixes **8-10**	Good style in writing a Management Report encompassing ideas and recommendations with some appendixes **5-7**	Some style in writing a Management Report encompassing ideas and recommendations **3-4**	Poor style in writing a Management Report **1-2**	Lack of knowledge in writing a Management Report **0**
TOTAL	**100**					

End of Question Paper