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தேசிய நீர் வழங்கல், வடிகாலமைப்புச் சபை
National Water Supply & Drainage Board

වාර්ෂික වාර්තාව 2016 ஆண்டு அறிக்கை 2016 **Annual Report 2016**



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நகர திட்டமிடல் மற்றும் நீர் வழங்கல் அமைச்சு
Ministry of City Planning & Water Supply

National Water Supply & Drainage Board

Annual Report 2016



Ministry of City Planning & Water Supply



Mission

Serve the nation by providing sustainable water & sanitation solutions ensuring total user satisfaction

Vision

To be the most prestigious utility organization in Sri Lanka through technological and service excellence

Goals

- Increase the water supply and sanitation coverage
- Improve business efficiency
- Ensure greater accountability and transparency
- Facilitate safe drinking water supply and sanitation to rural and underserved communities

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His Excellency Maithripala Sirisena
The President of Democratic Socialist Republic of Sri Lanka



Rauff Hakeem
Hon. Minister of City Planning & Water Supply



Sudarshini Fernandopulle
Hon. State Minister of City Planning & Water Supply



► **Message from the Secretary, Ministry of City Planning & Water Supply**



As in the previous years, during the year 2016 too, the Ministry of City Planning and Water Supply (MCPWS) continuously worked together with the National Water Supply and Drainage Board (NWSDB) for the very important task of providing safe drinking water and wastewater disposal facilities to the public all over the country.

The Ministry and NWSDB adopted a three-pronged strategic approach, namely large scale water supply projects, small and medium scale/ local bank financed projects and sewerage projects to realize the targets.

There are 19 large scale water supply projects in progress at different locations of the country while many other water supply projects are being planned to be implemented in the future. In addition, there are 6 large scale Sewerage projects being implemented in 2016 in Colombo City, Kandy Municipality area, Kurunegala Municipality area, Ja-Ela/Ekala and Moratuwa/Ratmalana areas and Katharagama Sacred City area. Also there are many projects at planning stage to cover urban centres requiring pipe sewerage, namely; Negombo, Galle, Maharagama, Boralesgamuwa, Puttalam, Chilaw, Welikada-Rajagiriya, Sri Jayawardenapura –Kotte, Kaththankudy, Kelaniya Peliyagoda, Gampaha, Batticaloa, Badulla and Hambantota etc.

A growing number of patients suffering from Chronic Kidney Disease of Unknown Etiology (CKDu) have been recorded since it was first identified in 1991.

Accordingly, the MCPWS has been working together with NWSDB for providing safe drinking water to CKDu affected areas. Short term, medium term and long term strategies and work plans have been scheduled as per WHO and medical professionals. The continuation of the short- term and medium-term action plans on CKDu were carried out throughout the year and total cost of

CKDu projects implemented by the NWSDB in the year 2016 was Rs. 617.32 million. In addition, the Project initiated in 2015 with Chinese Academy of Science and NWSDB to investigate root cause of CKDU and identifying sustainable water treatment for CKDU attacked areas was continued within the year.

The Ministry is grateful to our many funding partners who supported us in 2016, the principal ones being the Government of Sri Lanka, ADB, DANIDA, JICA, SIDA, UNICEF, World Bank and Governments of Australia, Austria, Belgium, China, France, Hungary, India, the Netherlands, South Korea, Spain and US Exim.

The Ministry will continue working together with NWSDB in the coming years to achieve the targets already set for making 60% of the population available with pipe borne water and 3.3% of the population available with piped sewerage by 2020.

I Would take this opportunity to thank Hon. Rauff Hakeem, Minister of City Planning and Water Supply for his leadership and guidance and Hon. Sudarshani Fernandopulle, State Minister of City Planning and Water Supply for co-operation extended to all of us to implement government policy with regard to City Planning and Water Supply.

I wish all success to the endeavours of the NWSDB to provide the public with high quality water supply and sewerage services and to implement the several development programmes that have been lined up for 2017 and beyond for achieving their water supply and sanitation targets.

D.G.M.V. Hapuarachchi

Secretary

Ministry of City Planning and Water Supply





National Water Supply & Drainage Board

The supply of potable water was originally the responsibility of the Public Works Department (PWD) which was subsequently transformed to the Department of Water Supply in 1965. Thereafter, the National Water Supply & Drainage Board was formed by Act of Parliament in 1975.

The National Water Supply & Drainage Board currently functions under the Ministry of City Planning & Water Supply which was established in 2015 to cover the subject area of water supply, sewerage and city planning separately.

Around 87.8 % of the population have access to the safe drinking water of which 47.7% is through piped water supply systems including the 37.1 % of the population which is covered by piped water supply systems of the NWSDB.

Notice of the Report

Hon. Minister of City Planning & Water Supply,
Ministry of City Planning & Water Supply,
Lakdiya Medura,
No. 35, Sunil Mawatha,
Pelawatta,
Battaramulla.

Dear Sir,

Annual Report and Financial Statements - 2016
National Water Supply & Drainage Board

In terms of Section 14 (2) of the Finance Act No. 38 of 1971, the members of the Board have the honour to forward herewith the Annual Report and the Financial Statements of the National Water Supply & Drainage Board for the year ending 31st December 2016.

Yours faithfully,

Eng. K. A. Ansar
Chairman
National Water Supply & Drainage Board

Chairman's Statement



“It is remarkable that the total No. of service connections provided by the NWSDB exceeded two million this year.

Accordingly, NWSDB has been able to supply safe drinking water through 2,092,471 service connections by end of 2016.”



The National Water Supply and Drainage Board has completed another successful year, 2016. The staff of NWSDB endeavored to provide safe drinking water and sewerage facilities to the public throughout the country in 2016. During the year, five large scale foreign funded and many other minor scale water supply projects were completed thereby contributing to provide 138,750 new water supply connections to the needy people throughout the country while improving the service level of some existing water supply coverage areas in different parts of the country. In addition, one large scale foreign funded sewerage project was also completed during the year.

During the year, NWSDB has produced 649 million cu.m of drinking water through 337 water supply schemes in operation throughout the country and this is an increase of 8.2% compared to the year 2015. It is remarkable that the total No. of service connections provided by the NWSDB exceeded two million this year. Accordingly, NWSDB has been able to supply safe drinking water through 2,092,471 service connections by end of 2016. In parallel, the population having piped drinking water supply provided by the NWSDB has been brought to 37.1% while contributing to bring the total pipe borne water supply coverage of the country to 47.7% as at end 2016 being in the process of reaching the target of 60% pipe borne water coverage by the year 2020.

The piped sewerage service connections provided by NWSDB have been brought up to 19,067 during the year thereby increasing the population coverage with piped sewerage facilities up to 2.08% which is an increase of 12% compared to the year 2015.

As implemented from year 2012, the International Financial Reporting Standards have been implemented by the Board during the year 2016 also. NWSDB has earned after tax net profit of Rs.2,926 Million in 2016 while maintaining a gross profit margin of around 43% in the year though the salary increase had a greater impact on the total cost structure and expenditure such as electricity, chemical etc. had also been increased year by year. The due Tariff Revision in every three years which was not implemented from the year 2012 is necessary for the future financial stability.

The new corporate plan 2016-2020 was implemented from this year. And the staff of NWSDB continued working towards achievement of the goals and objectives set out by the new Corporate Plan 2016-2020.

NWSDB enabled to carry out Rs.30.9 billion worth investments during the year 2016 towards the goal on water supply and sanitation coverage (apart from Rs. 11,076 million investments borrowed from local banks for implementing the Local Bank Funded projects). The funds have been disbursed based on the same method of disbursing funds for capital works practiced from 2015. NWSDB has also continued to rehabilitate and improve existing water supply and sewerage schemes using Rs.906 million of its own finances in 2016.

The NWSDB has spent Rs. 617 million from capital budget allocated

from the Ministry of CPWS for Chronic Kidney Disease of unknown etiology (CKDu) relief activities for the year 2016 and this has been utilized on medium term and short term strategies developed to provide safe drinking water to CKDu affected areas.

The NWSDB continued to identify and implement short term and long term measures for the reduction of Non-Revenue Water (NRW) in regional support center (RSC) level. Many short term activities were implemented in each RSC targeting to reduce the NRW. In addition, water rehabilitation / service improvement projects with JICA & ADB assistance were also implemented during the year for reducing the high NRW levels in Colombo City. As a result of both the short term and long term measures taken over during the year, the NRW of Colombo City was brought down to 45.7% while the same for Island wide was brought down to 25.6% by end of 2016.

NWSDB has continued works on Water Safety Plans with the advocacy and implementation support from WHO during the year 2016. Urban Water Safety Plans have been implemented for 87 water supply schemes which is about 26 % of NWSDB water supply schemes covering all the major WSSs. Further, 11 urban water safety plan training programs have been conducted for all the RSCs during the year.

The central lab of NWSDB together with regional laboratories worked to assure the quality of water provided. Source water quality of treatment plants of Schemes Island wide, were tested twice a month while the treatment process water quality was analyzed weekly thereby assuring the supply of safe drinking water.

As for the last few years, the work has been continued through the year 2016 to introduce properly designed IT solutions for streamlining the business process and operational procedures in order to achieve service excellence and increase operational efficiency.

The energy management program of the NWSDB has achieved substantial progress with qualitative and quantitative upgrading of its systems. The M&E Services Division of NWSDB is fully equipped with energy measuring equipment to carry out all types of energy audits for energy management works.

The contribution of NWSDB staff in all categories for the successful operations and the development initiatives of the NWSDB were very significant. This includes,

planning, designs, investigations, feasibility studies, construction, operation & maintenance, process control & optimization and energy conservation under careful considerations with a view to achieve economic operations meeting the global environmental obligations.

We are thankful for all the support given by the Hon. Minister of City Planning & Water Supply for the accomplishments of the functions of NWSDB during the year. His directions and guidance and support as the Minister in charge of Water and Sewerage facilities were invaluable for us. Our sincere thanks also goes to the Hon. State Minister of CPWS for her guidance and support tendered us throughout the year. We also take this opportunity to extend our thanks to the Secretary to the Ministry of City Planning & Water Supply and all the staff at the ministry for coordination, support and assistance given whenever necessary.

We also take this opportunity to thank the Secretary to the Ministry of Finance and the Heads of Departments in the Treasury for the continuous support by them to achieve progress in all our activities.

We are grateful to multinational donors and bilateral financiers for giving us a hand for the developments we have brought up throughout the country in water supply and sanitation sector. We thank them for their interest to having participated with NWSDB on development work in the sector.

All the progress we have made through the year is a result of the dedications and efforts by the Members of the Board of Directors and the staff of the NWSDB. Without their dedications, hard work and sacrifices, our achievements would be impossible. We expect their endeavor through the years to come will upgrade the health, social and living standard of the people from all parts of the country by improving the service in water supply and sanitation facilities meeting the consumer satisfaction. Meanwhile, if there are any lapses on the part of the NWSDB, we request our customers to bear with us and inform us for further improvement.



Eng. K. A. Ansar

Chairman

National Water Supply & Drainage Board

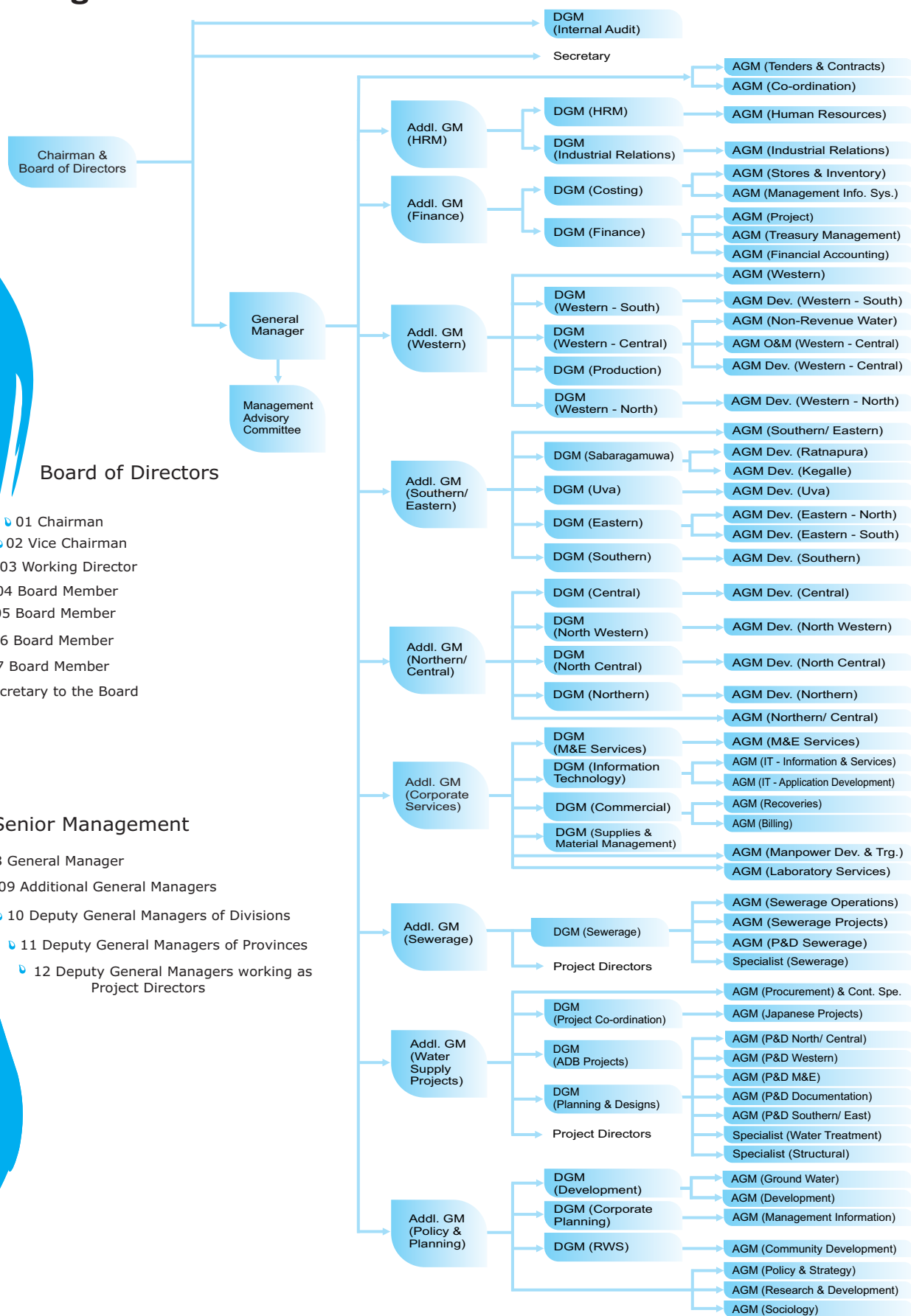


“There’s plenty of water in the universe without life, but nowhere is there life without water.” -

Sylvia A. Earle



Organizational Structure



Board of Directors

- 01 Chairman
- 02 Vice Chairman
- 03 Working Director
- 04 Board Member
- 05 Board Member
- 06 Board Member
- 07 Board Member
- Secretary to the Board

Senior Management

- 08 General Manager
- 09 Additional General Managers
- 10 Deputy General Managers of Divisions
- 11 Deputy General Managers of Provinces
- 12 Deputy General Managers working as Project Directors

Board of Directors

01 Eng. K. A. Ansar

Chartered Civil Engineer/ Lead Auditor (QMS)
M.Sc. (Delft), B.Sc. Eng. (Hons),
Dip. H.E. (Delft), C.Eng., MIE (SL)
Chairman, NWSDB

02 Mr. M. Shafeek Rajabdeen

Vice Chairman, NWSDB

03 Mr. P. I. T. Mahilal Silva

BA, MA, M.S.Sc
Working Director, NWSDB

04 Dr. P. G. Maheepala

MBBS, M.Sc., MD, MBA, FCMA, DPM, DBS, DED, DMgt.
Director General of Health Services
Ministry of Health
Board Member, NWSDB

05 Mr. J. M. U. P. Jayamaha

DPFM, PGD(A&F), Fellow Member of APFASL
Additional Director General
Department of Public Enterprises
Board Member, NWSDB

06 Mr. Shantha Rathnayake

Board Member, NWSDB

07 Mrs. K. A. Subadra Walpola

MA
Senior Assistant Secretary
Ministry of Local Government & Provincial Councils
Board Member, NWSDB

Secretary to the Board

Mrs. W. P. Sandamali De Silva

B.Sc. Special (Hons)

The Board met on 13 occasions during the year 2016.

Senior Management

08 General Manager

Eng. G. A. Kumararathna

B.Sc. Eng. (Hons), M.Sc. (UK), C.Eng. FIE(SL),
MICE (Lond.), MIWEM (Lond.) P.G. Dip. in Industrial Eng.
(from 02/07/2016)

General Manager

Eng. B. W. R. Balasooriya

B.Sc. Eng. (Hons), M.Sc. (UK), C.Eng. FIE (SL),
(up to 01/07/2016)

09 Additional General Managers (Addl. G. M)

Eng. G. A. Kumararathna (Sewerage)

B.Sc. Eng. (Hons), M.Sc. (UK), C.Eng. FIE (SL),
MICE (Lond.), MIWEM (Lond.)
P.G. Dip. in Industrial Eng.
(up to 01/07/2016)

Eng. D. S. D. Jayasiriwardene

(Southern/ Eastern)

B.Sc. Eng. (Hons), C.Eng. FIE (SL),
M.Phil (Univ. of Hawaii)
(Up to 17/10/2016)

Eng. D. U. Sumanasekara

(Water Supply Projects)

B.Sc. Eng., C.Eng. FIE (SL), M.Sc. (Struct. E.) UK

Eng. R. S. C. George

(Policy and Planning)

B.Sc. Eng. (Hons), C.Eng. MIE (SL),
M.Sc. (Eng.) FRG, MICE (UK)

Eng. W. B. G. Fernando

(Corporate Services)

B.Sc. (Eng.), P.G. Dip. (EWREM), C.Eng. FIE (SL)

Eng. J.R.B. Nedurana

(Northern Central)

B.Sc. Eng (Hons), P.G. Dip. in Environmental
Sciences & Technology (Delft.)
C.Eng.MIE(SL),

Eng. L. L. A. Peiris (Western)

B.Sc. (Eng.) Civil Engineering (University of Moratuwa - SL),
C.Eng. FIE (SL), Int. PE (SL), M. Phil (IWRM), University of
Peradeniya, SL, P.G. Dip. (Water and Wastewater Eng.), AIT,
Bangkok,

Eng. M. K. Hapuarachchi (Sewerage)

C.Eng. MIE (SL), P. G. Dip. in Environmental Engineering &
Management.

P. G. Dip (L&WD), P. G. Dip (Business Admin)

(from 18.10.2016)

Eng. R. H. Ruvinis (Southern/ Eastern)

B.Sc. Eng. (Hons) P.G.Dip. (App Hy)
MBA, C. Eng. FIE (SL), MIE (Aus). CP Eng.
(from 18.10.2016)

Mr. D. Thotawatte (Finance)

B.Com (Sp.), ACA, MA (Fin. Econ)

Mr. G. K. Iddamalgoda

(Human Resource Management)

B.Sc. (B. Admin), Dip. in Per. Mgt.
MA (Mgt. & Admin) London

10. Deputy General Managers (DGM) of Divisions (as at 31st December 2016)

Mr. R. M. A. S. Weerasena (Internal Audit)

B.Com (Sp.), PGDBM (Col.), ACA

Mrs. A.P.S. De Silva (Costing)

FCA

Mrs. N. Y. S. Abeygunawardena

(Industrial Relations)

BA, P.G. Dip. in Management (PIM), Member (IMSL)

Mr. R. M. A. Bandara (Supplies)

B.Sc., (Business Administration - Spl.)
Dip. in Purchasing and Materials Mgt.

Mrs. M. M. S. Peiris (Finance)

B.Sc. (Accountancy & Finance Mgt.), ACA (SL)

Eng. S. G. J. Rajkumar (Development)

C.Eng., FIE(SL), M.Sc. in Sanitary Engineering,
M.Sc. in Environmental Engineering and Management

Eng. S. G. G. Rajkumar (Commercial)

B.Sc. Eng. (Hons), C.Eng., FIE(SL),
M.Sc.(Denmark), MBA (PIM-USJ), M.Eng (Moratuwa)

Eng. S. G. Jayawardena (Sewerage)

B.Sc., P.G.Dip.in Sanitary Eng. MIE(SL)

Eng. Thilina S. Wijetunga (ADB Projects)

B.Sc. Eng., C.Eng., FIE (SL), MBA, M.Sc. (Planning)
MA (Financial Economics), MIM (SL), P.G.Dip. (Finance)-
ICA(SL), Dip.(Mgt.) – DK

Eng. S. Sumanaweera (Production - Western)

B.Sc. Eng., M.Eng. (Env.) AIT, C.Eng., FIE (SL)

Eng. Duleep Goonewardene (RWS)

B.Sc. Eng., C.Eng., MIE (SL), FIE (SL), M. Eng. (IHE-
UNESCO)

Eng. U. Ratnapala (Project Coordination)

B.Sc. Eng., C. Eng, FIE (SL), P.G.Dip. in Hydraulics Eng. (Moratuwa),
P. G. Dip. in Business & Financial Admin (ICA)

Eng. K. W. Premasiri (Planning and Design)

B.Sc. Eng. M.Eng. (Hydraulics), M. Eng. (Structural Eng. Designs),
Int. PE.C.Eng., FIE (SL), M.S.S.E. (SL),

Eng. K. D. P. F. Siriwardana(Corporate Planning)

M.Sc. (Env.Eng.) Denmark, PG Dip (Const. Mgt) SL,
MIE (SL), Chartered Engineer
(from 28.10.2016)

Eng. B.L. Gunaratne (M&E)

B.Sc. Eng. P.G.Dip.(Sani.Eng) - Norway

Eng. J.Chandradasa (Information Technology)

B.Sc. Eng., C.Eng. MIE(SL)

**11. Deputy General Managers of Provinces
(as at 31st December 2016)****Eng. T. W. S. Perera (Western Central)**

B.Sc. Eng., (Spl), C.Eng. Masters in Dev. Science MIE (SL)

Eng. C. C. H. S. Fernando (Western South)

B.Sc. Eng., MPM, P.G. Dip. (OSLO University)
MIE (SL), MIM (SL), C. Eng. Chartered Eng.

Eng. R. A. B. S. Mendis (Western North)

B.Sc. Eng., C.Eng. MIE (SL), M.Sc. in Sanitary Eng. (Netherlands)

Eng. S.A. Rasheed (East)

M.Sc.(Sanitary Engineering), The Netherlands
P.G.Dip.(Structural Engineering Design), Sri Lanka
B.Sc. (Eng.), Sri Lanka
MIE (SL), C.Eng.

Eng. M.M. Uma Lebbe (North)

IESL, P.G.Dip. (Str. Eng. Design)
P.G.Dip.(Water & Waste water Treatment)

Eng. K.PR.S. Samarasinghe (Central)

M.Sc. (Water Supply Eng) The Netherlands
M.Sc. (Env.Eng) Moratuwa, MIESL, AM (OACETT), Canada

Eng. Mrs. I.M.W.K. Illangasinghe (North Western)

B.Sc.(Eng.) M.Eng. (Japan), C.Eng., MIE(SL)

Eng. G.V. Wijerathne (North Central)

B.Sc.(Eng), M.Sc(WREM), C.Eng, MIESL

Eng. W.W. Liyanage (Sabaragamuwa)

M.Eng.(Structural Eng. & Design),
M.Sc. (Environmental Eng. & Mgt.), C.Eng. FIE(SL)

Eng. R.S. Liyanage (Uva)

B.Sc. Eng. Ceng. FIC(SL), PGD (Management), MIM,
M.Sc. Eng.(Water & Environmental Resources Management), MBA,
M.Sc. (Water Resources Management, Holland)

Eng. J. K. S. Pathirana (Southern)

B.Sc. Eng. (Hons), C.Eng. MIE (SL) M.Sc. (Sanitary) Delft.

12. Addl.GMS/DGMs working as Project Directors**Eng. R. Kulanatha (Wastewater disposal for****Rathmalana Moratuwa & Ja-Ela/ Ekala Area)**

B.Sc. Eng., C.Eng. MIE (SL),

Eng. B. S. Wijemanna**(Greater Colombo Rehabilitation Project)**

B.Sc. Eng., M.Eng. Hydrology and Water Resources, IHE (Delft),
Dip. in Construction Management, C.Eng. MIE (SL),

Eng. K. J. V. A. Perera**(Gampaha Attanagalla Water Supply Project)**

P. G. Dip. in Environmental Engineering and Management
B.Sc. Eng. FIE (SL), M.Eng. (Sanitary) IHE (Delft),

Eng. R. A. B. S. Mendis (ADB 5th Project)

B.Sc. Eng., C.Eng. MIE (SL),
M.Sc. in Sanitary Eng. (Netherlands)

**Eng. K.PR.S. Samarasinghe (Labugama Kalatuwawa WSP and
Kolonna Balangoda WSP)**

M.Sc. (Water Supply Eng.) The Netherlands
M.Sc. (Env. Eng.) Moratuwa, MIESL, AM(OACETT) Canada

**Eng. S.A. Rasheed(Colombo Water Supply Service
Improvement Project)**

M.Sc.(Sanitary Engineering), The Netherlands
P.G.Dip.(Structural Engineering Design), Sri Lanka
B.Sc. Eng. Sri Lanka
MIE(SL), C.Eng

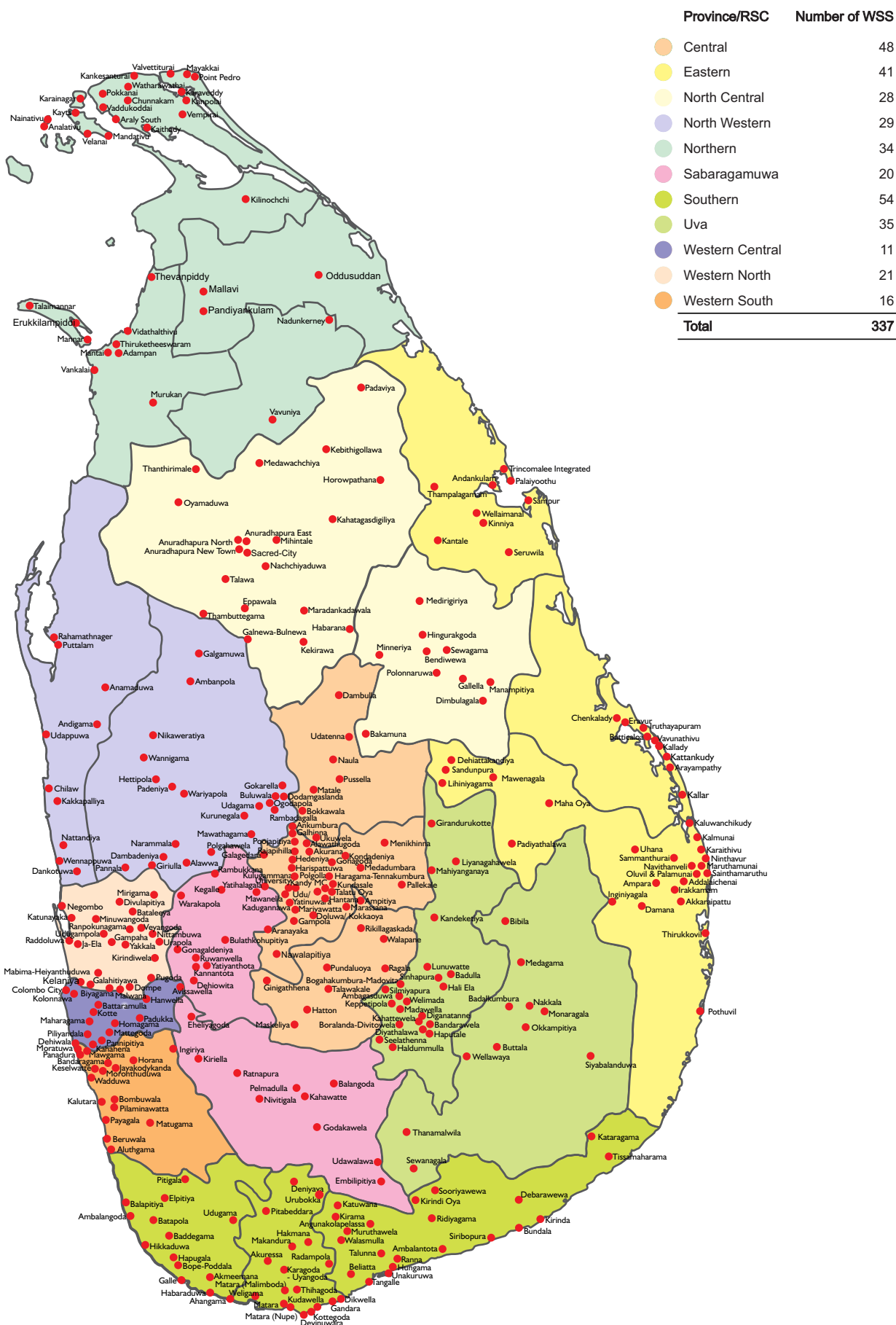
Eng. P.P.Kahaduwa (Ruhunupura WSP)

B.Sc. Eng, P.G. Dip.(Water & Waste Water Treatment), P.G. Dip. (B.A)
C. Eng. MIE(SL)

Eng. R.S. Liyanage**(Mahiyanganaya WSP and Badulla Haliela WSP)**

B.Sc. Eng. Ceng. FIC(SL), P.G.Dip. (Management), MIM,
M.Sc. Eng.(Water & Environmental Resources Management), MBA,
M.Sc. (Water Resources Management, Holland)

Existing Water Supply Schemes



“As at end 2016 there are 82 urban Water Safety Plans implemented in various stages Island - wide by the DGMs of RSCs with assistance of Water Safety Plans advisory unit established in Kandy.”

Implementation Status of the Corporate Plan 2016- 2020

The year under review was the first year of the Corporate Plan 2016-2020. This Corporate Plan was prepared by a special committee appointed by the General Manager, comprising of 14 senior managers of the NWSDB.

By incorporating key results areas in previous Corporate Plan (CP 2012-2016), the special committee decided to reduce the number of goals from 7 to 4 for the new Corporate Plan 2016-2020 for accelerated monitoring of the progress status of each and every activity of relevant Goals.

The NWSDB continued working towards the achievement of the goals and objectives set out by the Corporate Plan during the year. It was considered important to have timely reviews for the successful achievement of the goals, objectives and the targets set.

Quarterly progress on the Corporate Action Plans are presented to the Members of the Board by every manager responsible for a particular goal (there are four such goals, overseen by a designated accountable manager for every goal). Accordingly, 4th quarter of 2015, 1st, 2nd and 3rd quarters of 2016 progress reports on the Corporate Action Plans were presented to the Members of the Board at Board meetings held in 2016.

Activities towards the goal on water supply and sanitation coverage were being carried out throughout the country. Special efforts taken to reduce NRW and power cost during 2016 are noteworthy. However, customer service improvement was given as a priority.

Promoting Institutional Development is part of a Corporate Goal. 5S concept was implemented for improving the productivity in every section in the NWSDB head office, Telawala premises and Polwatte premises. Arrangements were made to select the section with the best implementation of 5S programme under “Identify Infrastructure Development Activities” in the NWSDB and the Central Lab of the head office won the first place in this contest.

On achieving the Goal “Ensure greater accountability and transparency”, both the Internal Audit Division and the Government Audit Branch worked on the accountability and transparency issues.

The CKDu affected areas and the rural community without safe water supply facilities were given priority within the available resources.

Water Safety Plan (WSP) implementation in Sri Lanka continued in 2016 under the advocacy and implementation support from the WHO. NWSDB strive to make sure that all the water consumed by the community is safe. Under this context Water Safety Plans (WSPs) are being implemented. As at end 2016 there are 82 urban Water Safety Plans implemented in various stages Island - wide by the DGMs of RSCs with assistance of WSP advisory unit established in Kandy.



Central Lab won the first place in the competition held in 2016

Progress Towards Stated Goals

Goal	Key Objectives	Target end 2016	Achievement end 2016
1. Increase the water supply and sanitation coverage	1.1 Total Pipe-borne water supply coverage	49.8%	47.7%
	1.2 Piped sewerage coverage	2.4%	2.08%
	1.3 Access to safe drinking water supply coverage	89.3%	87.8%
2. Improve business efficiency	2.1 NRW (island-wide)	26.70%	25.55%
	2.2 Total staff for 1,000 connections	5.00%	4.95%
	2.3 Expenditure on power to total recurrent cost	17.00%	19.01%
	2.4 Maintenance expenses to total recurrent cost	6.26%	5.87%
	2.5 Establishment expenses to total recurrent cost	11.19%	10.44%
	2.6 Estimated bills to total number of bills	1.0%	1.14%
	2.7 Collection efficiency	100.0%	107%
	2.8 Accounts receivable from -		
	(a) domestic and commercial institutions	30 days	20 days
	(b) Government institutions	40 days	5 days
	2.9 Promote Human Resource Development		
	(a) In-house training (no. of participants)	4400	9007
	(b) In-country external training (no. of persons)	180	197
	(c) Overseas training (no. of persons)	80	236
	2.10 Improve service to customers and promptly attend to public complains		
	Public awareness programs to be carried out all island (school/other)	100 Nos	137 Nos
	2.11 Annual savings from energy efficient projects.	36.7 m	21.8 m
	2.12 Research and Development Division of the NWSDB is continuing systematic, investigative and experimental activities that are performed for the purpose of acquiring new knowledge to efficient business and O&M activities.		
	2.13 The NWSDB is ready to capitalize on improving the customer and corporate relationship, which will have a web-portal as a platform for improving its business to implement comprehensive ICT development activities.		
3. Ensure greater accountability and transparency	Initiatives were taken to develop a whole range of management and business tools on human resource development, management information system and business plan. • Delegation of financial authority • Training on budgetary control & financial regulations • Audits on commercial operations • Audits on stores and supplies • Audits on cash/ cheque payments • Audits on construction contracts • Valuation of assets • Improved Management Information and Coordination		
4. Facilitate safe drinking water supply and sanitation to rural and underserved communities	4.1 RWS Schemes maintained by CBOs, LAs and others under the NWSDB backup support	10.6%	10.6%

Key Performance in Water Supply

“The ratio of staff per thousand service connections was reduced to 4.95 in the year 2016 from 5.24 in 2015.”

By providing 138,750 service connections during the year, the population that was covered with piped drinking water supplies by the NWSDB was brought to 37.1%.

New water supply connections were provided and service levels to existing consumers were improved by commissioning several major and minor water supply projects in different parts of the country during the year. There were 19 foreign funded water supply projects and 10 local bank funded water supply projects in progress in addition to the many small and medium water supply projects at completion stage to increase the pipe borne water supply coverage of the country.

The ratio of staff per thousand service connections was reduced to 4.95 in the year 2016 from 5.24 in 2015.

The tariff revision has not been in line with the increase in the operational expenses from the year 2012. Hence the Board has experienced difficulties in managing its cash flow during the last five years. Despite the policy decision taken in the year 2014 by the General Treasury to convert the total outstanding debt into equity to strengthen the Balance Sheet, it had not improved due to the debt commitment of the new loans.

The NWSDB has recorded Rs.1,002,860,406, Rs.1,425,890,828, Rs.2,914,135,395 after tax profit for the last consecutive three years since 2014.

The Central Lab of NWSDB together with the regional labs worked to assure the quality of drinking water provided. Out of 28,021 drinking water samples tested for Micro Biology during the year, only 0.89% of samples have shown unsatisfactory. Further, 27,217 samples were tested for physical and chemical parameters and 10% were found unsatisfactory based turbidity, colour or hardness. Source water (Raw Water) quality in 271 Water Treatment Plants of schemes island wide were tested twice a month following SLS 722 Guide lines and treatment process water quality were analyzed weekly.

Three Regional Laboratories were developed at Mahiyangana, Kilinochchi and Kundasale. Testing facilities were developed in regions (Jaffna- Heavy Metal, Anuradhapura-Pesticides, Ampara-Algae & Algal Toxins) and Laboratory Instrument (Furnace, Oven, GC/MS, Etc.) were received from Unicef Funds.

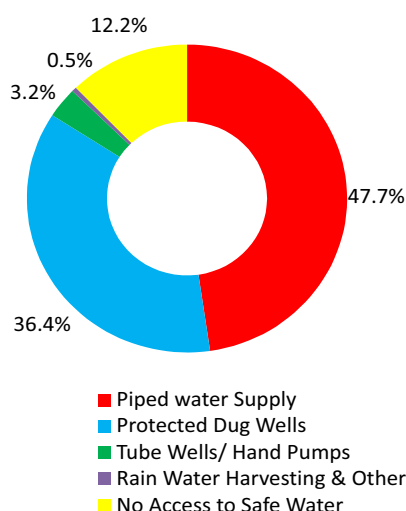
Several NRW reduction activities were conducted during the year. Within Colombo city, critical areas were selected and area inflow measurements were taken after establishment of closed boundaries. Night survey, culvert survey and house to house survey were carried out to identify visible leaks. The NRW was reduced to considerable amount for those areas. Accordingly, the NRW of Western Province & Island wide were brought down up to 28.26 % and 25.50 % respectively.

General

There are 337 major, medium and small water supply schemes in operation under the NWSDB's purview. Out of these, 54 schemes cover major cities and 283 schemes cover townships and villages.

3.2 % of the population is covered with hand-pump tube wells. Community management is promoted with regard to rural water supply schemes through community-based organizations. Proper rain water harvesting was considered as an acceptable option for drinking.

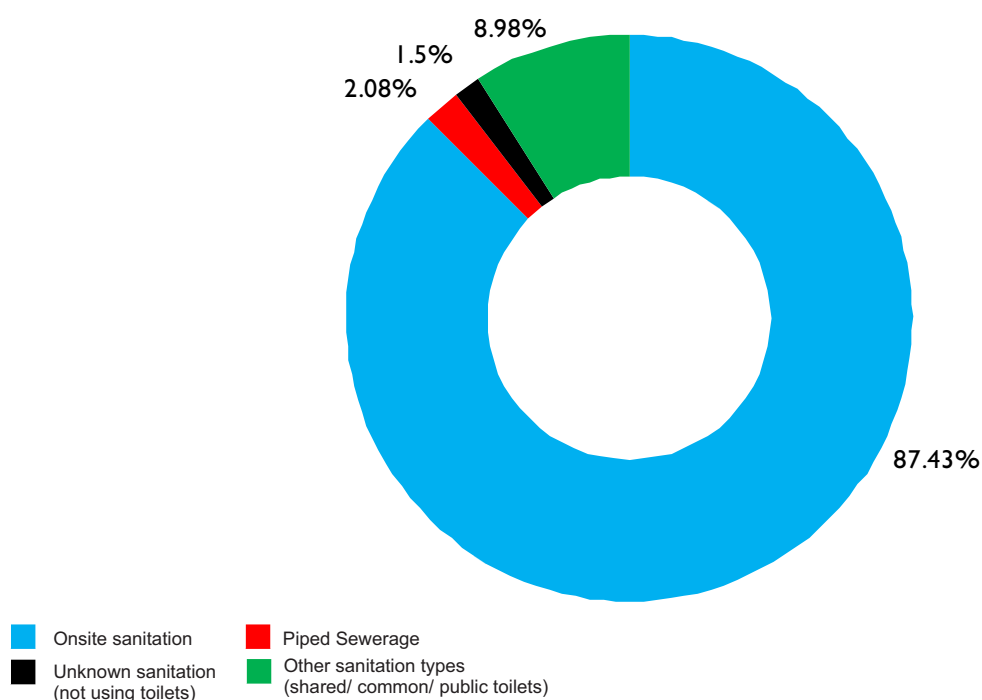
Access to Safe Water Coverage



	2015	2016	Variation (%)
KEY STATISTICS: WATER SUPPLY			
No. of Water Supply Systems	331	337	1.81
Piped Water Production (million cu.m.)	600	649	8.17
Piped Water Consumption (million cu.m.)	436	483	10.78
Domestic Connections (Nrs.)			
(a) Western Province	804,082	857,647	6.66
(b) Other Provinces	1,027,467	1,073,609	4.49
Total Domestic Connections	1,831,549	1,931,256	5.44
Public Stand Posts (Nrs.)			
(a) Western Province	503	470	(6.65)
(b) Other Provinces	1,182	1,159	(1.95)
Total Public Stand Posts	1,685	1,629	(3.32)
Non-Domestic Connections (Nrs.)			
(a) Western Province	74,297	79,599	7.14
(b) Other Provinces	47,875	81,616	70.48
Total Non-Domestic Connections	122,172	161,215	31.96
(Including total public stand posts)			
Total No. of Service Connections	1,953,721	2,092,471	7.10
Average Monthly Household Consumption			
(cu.m. per house connection)			
(a) Western Province	17.29	18.12	4.80
(b) Other Provinces	12.48	13.62	9.13
Average Household Bill Value per Month (Rs.)			
(a) Western Province	729.44	829.92	13.77
(b) Other Provinces	405.85	474.76	16.98
Total Revenue (Rs. million - with VAT)	20,472	23,975	17.11
Total Recurrent Expenditure (Rs. million)	19,549	21,034	7.0**
Non-Revenue Water (%)			
(a) Western Province	30.31	28.26	(6.76)
(b) Other Provinces	23.39	22.18	(5.17)
(c) Island-wide	27.30	25.55	(6.41)
O&M Staff/ 1,000 Connections	4.41	4.14	(6.12)
Total Staff/ 1,000 Connections	5.24	4.95	(5.53)
Average Recurrent Cost of Water Production (Rs./ cu.m.)	32.57	32.23	(1.04)
Average Total Cost/ Unit Sold (Rs./ cu.m.)	48.81	47.19	(3.32)
Average Unit Revenue (Billing/ Consumption) (Rs./ cu.m.)	46.92	49.62	5.75
Collection Efficiency	1.03	1.00	(2.91)**
Deep Wells (Nrs.)			
(a) Drilled	179	299	67.04
(b) Successful	162	265	63.58
Development Expenditure (Rs. million)	27,544.18	30,902.42	12.19

****Variation of the key factor considered is unfavorable.**

Key Performance in Sewerage



KEY STATISTICS: SEWERAGE

		2015	2016	Variation (%)
Domestic Connections	Western Province	12,380	13,757	11.12
	Other Provinces	886	886	0.00
Non-Domestic Connections	Western Province	964	1,332	38.17
	Other Provinces	181	185	2.20
Housing Scheme Connection(Bulk)	Western Province	2,624	2,907	1.70
	Other Provinces	-	-	-
Total Sewerage Connections	All Island	17,035	19,067	12.00
	Western Province	15,968	17,996	13.00
	Other Provinces	1,067	1,071	0.40

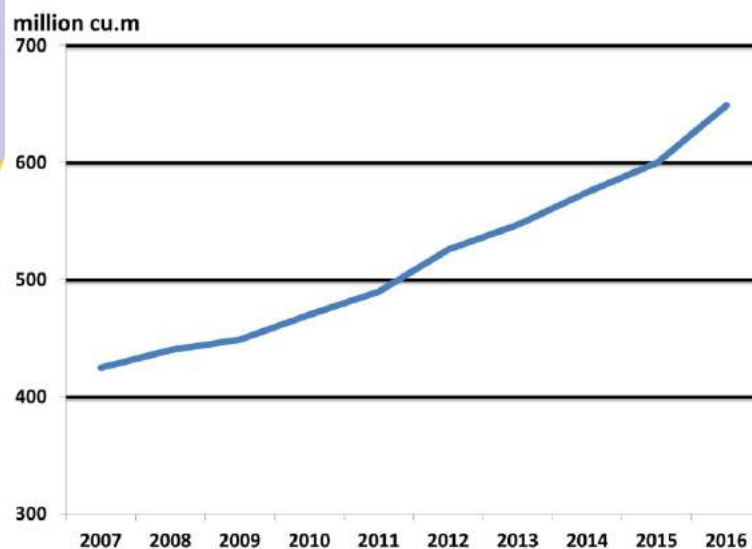
Summary of Operations

“The Western Province water supply system claims the major share of production mainly through the centers at Ambatale, Labugama, Kalatuwawa, Biyagama, Bambukuliya and Kandana & Kethhena in Kalutara amounting to 55 % of the total water produced by the NWSDB”

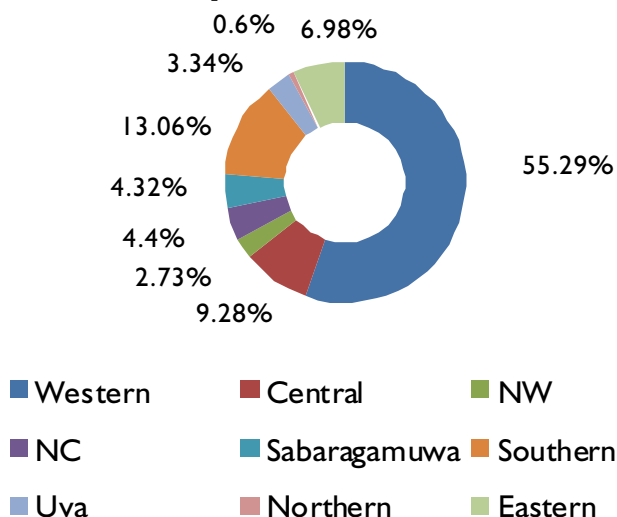
WATER SUPPLY

Drinking Water Production

The total quantity of drinking water produced in 2016 was 649 million cu.m. The trend in drinking water production during the last 10 years is given in the chart. The Western Province water supply system claims the major share of production mainly through the centers at Ambatale, Labugama, Kalatuwawa, Biyagama, Bambukuliya and Kandana & Kethhena in Kalutara amounting to 55% of the total water produced by the NWSDB.

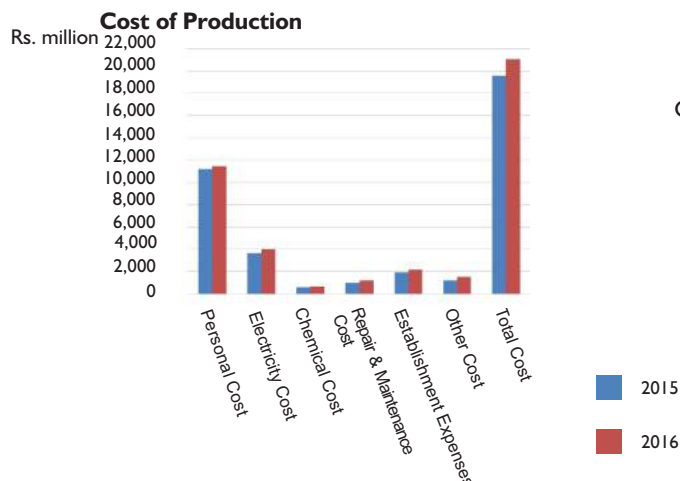


Water Production by Provinces



Cost of Production

Breakdown of the total production cost (Rs. million) in comparison with 2015 is shown below:



Cost of Production Rs. /cu.m.

2015
48.81

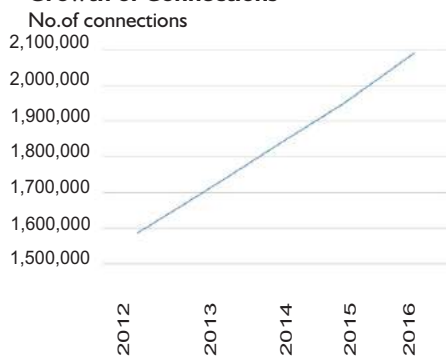
2016
48.04

Cost of Production = Total Cost / Units Sold
= (Total Recurrent Cost
+ Interest on commissioned projects
+ Depreciation) / (Quantity sold)

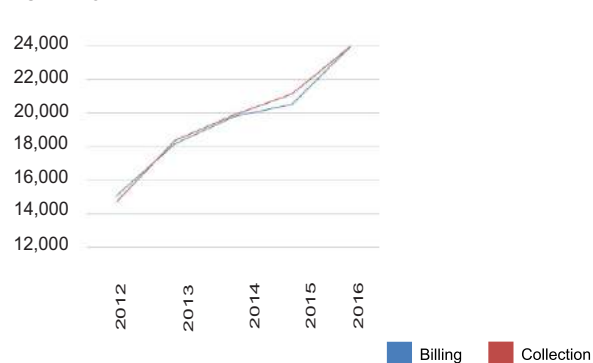
Comparison of Service Connections

Province/ RSC	No. of Connections Province/ RSC-wise			NWSDB Region	No. of Connections NWSDB Region-wise		
	As at end December 2015	As at end December 2016	Change %		As at end December 2015	As at end December 2016	Change %
Western - Central	421,319	443,998	5.4	Priority	2,290	2,293	0.1
				Colombo City	138,100	140,841	2.0
				Kotte	154,809	160,781	3.9
Western - North	237,261	256,513	8.1	Maharagama	126,120	140,083	11.1
				Kelaniya	169,717	183,519	8.1
Western - South	219,799	236,735	7.7	Gampaha	67,544	72,994	8.1
				Dehiwala	102,479	105,136	2.6
				Kalutara	60,345	63,912	5.9
				Panadura	56,975	67,687	18.8
Central	236,052	248,735	5.4	Kandy North	88,434	93,804	6.1
				Kandy South	75,593	80,366	6.3
				Kandy East	72,025	74,565	3.5
North Western	69,182	73,782	6.6	Kurunegala	69,182	73,782	6.6
North Central	100,668	107,686	7.0	Anuradhapuraya	100,668	107,686	7.0
Sabaragamuwa	94,784	100,957	6.5	Ratnapura	43,219	47,489	9.9
				Kegalle	51,565	53,468	3.7
Southern	293,217	303,423	3.5	Hambantota	97,728	102,406	4.8
				Matara	91,709	94,646	3.2
				Galle	103,780	106,371	2.5
Uva	81,307	86,273	6.1	Bandarawela	46,213	48,706	5.4
				Monaragala	35,094	37,567	7.0
Northern	14,834	17,817	20.1	Jaffna			
				Mannar	14,834	17,817	20.1
				Vavunia			
Eastern	185,298	216,552	16.9	Ampara	38,891	50,967	31.1
				Trincomalee	47,756	55,902	17.1
				Akkaraipattu	63,892	68,935	7.9
				Batticaloa	34,759	40,748	17.2
Total	1,953,721	2,092,471	7.1	Total	1,953,721	2,092,471	7.1

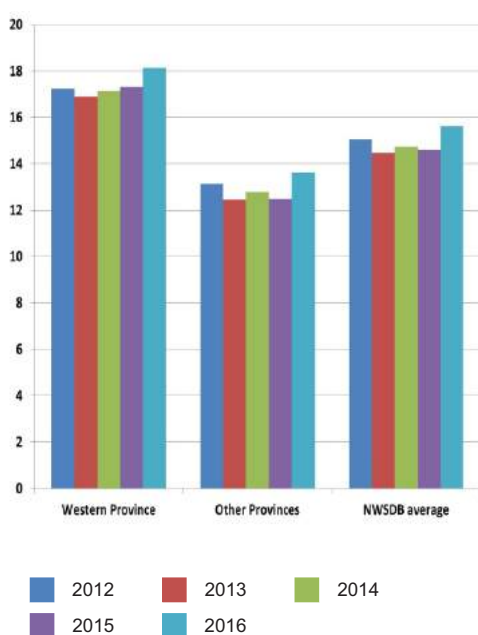
Growth of Connections



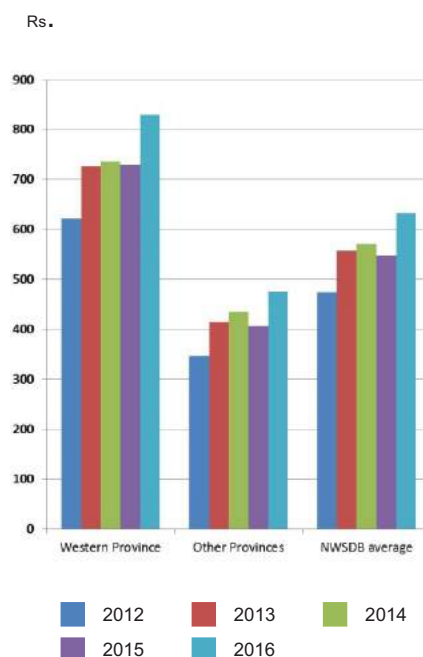
Comparison of Annual Billing and Collection



Average Household Monthly Consumption (cu.m per Connection)



Average Household Monthly Bill



Billing Statistics

Description	2015 (Rs. million)	2016 (Rs. million)
Billing Target (with VAT)	21,694	22,380
Actual Billing (with VAT)	20,472	23,975
Collection Target (with VAT)	21,477	22,156
Actual Collection (with VAT)	21,157	23,971

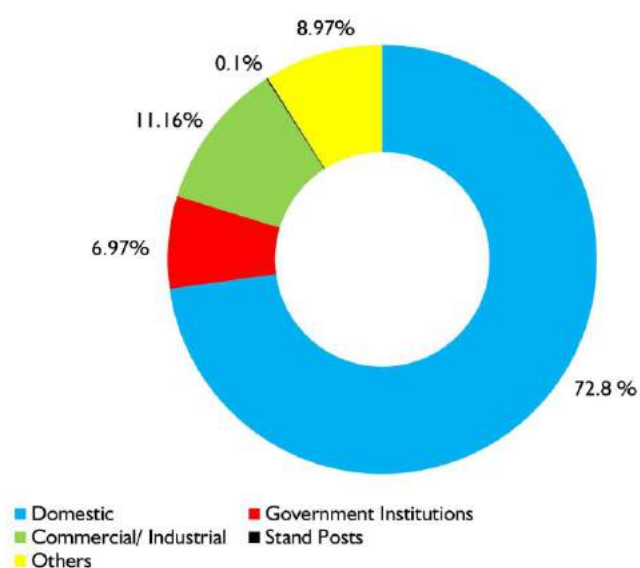
Quantity of Water Sold and Revenue by Consumer Categories (2016)

Consumer Category	Quantity sold		Revenue	
	cu.m '000s	%	Rs. million	%
Direct billing [#]	359,917	72.80	14,535	60.63
Schools	5,661	1.14	129	0.54
Tenement gardens	2,170	0.44	80	0.33
Public stand-post supply	497	0.10	17	0.07
Government institutions, NWSDB premises	34,449	6.97	2,419	10.09
Commercial and industrial	55,198	11.16	5,378	22.43
Tourist hotels	2,986	0.60	274	1.14
Shipping	132	0.03	72	0.30
Board of Investment	9,330	1.89	650	2.71
Religious premises	5,703	1.15	134	0.56
Subtotal	476,043	96.28	23,688	98.81
Bulk billing	14,431	2.92	275	1.15
Others*	3,942	0.80	9.5	0.04
Grand Total	494,416	100.00	23,973	100.00

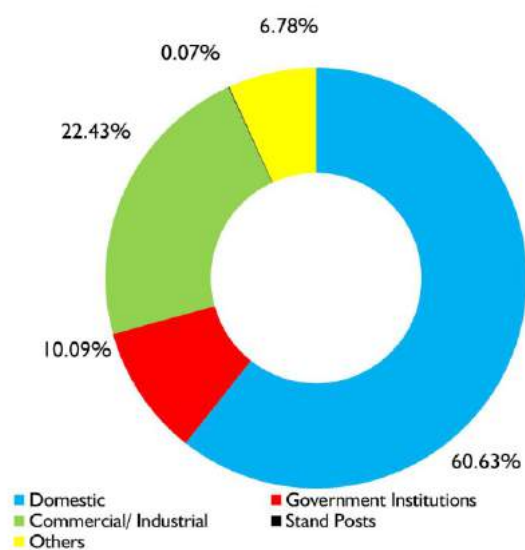
Domestic, NWSDB Quarters, Government Quarters, Condominium, Domestic Non-Vat, Domestic Samurdi & Tenement Samurdi

* All other billing categories which are not under "Direct Billing" or not specified as above have been grouped under 'Others'. Setting-off rebates have also been included in this category.

Percentage Quantity of Water Used by Consumer Categories



Percentage Revenue by Consumer Categories



Summary of Investments

“The NWSDB was able to make payments for development activities without restrictions in the case of Large Scale Water Supply & Sewerage Projects in 2016.”

Financial Sources

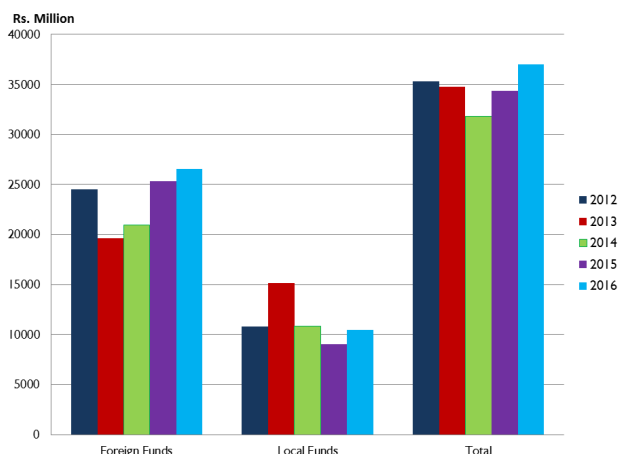
The NWSDB was allocated with local consolidated funds only for Emerging Small Townships (Small & Medium) Water Supply & Sewerage Projects. Foreign Aid Grant and Reimbursible Foreign Aid Grants were allocated for 3 selected Large Scale Water Supply/ Sewerage Projects. There was another allocation of Rs.25 billion for the foreign loan disbursements of Large Scale Water Supply and Sewerage Projects.

The NWSDB was able to make payments for development activities without restrictions in the case of Large Scale Water Supply & Sewerage Projects in 2016.

Meanwhile the NWSDB was able to implement 15 Water Supply Projects (including 9 new projects and 6 projects continued from 2015) by borrowing Rs.11,076 million during 2016 from Local Banks.

For the purpose of water sector community facilitation, Rs. 1,942.49 million in local funds and a supplementary allocation of Rs.18 million Foreign Aid Grant were provided.

Capital Budget Allocations

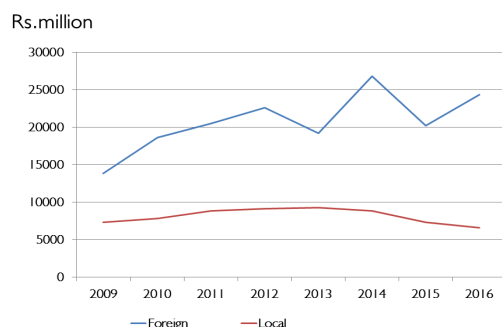


Although there was a slight drop in total allocation on water supply & sewerage in 2014 compared to that of 2013, the total allocation on the same was gradually increased afterward upto Rs.37 billion in 2016. The new method of disbursing funds for capital works practiced from 2015 enabled the NWSDB to carry out Rs.30.9 billion worth of investments (except for LBF projects).

Utilization of Capital Funds

Capital fund utilization stood at 83.5 % in the year 2016.

Capital Fund Utilization



Comparison of Capital Fund Utilization 2015/ 2016

Description	2015	2016
Foreign Component (Rs. million)	20,247 79.8%	24,335 91.8%
Foreign Aid Related Domestic Component (Rs. million)	5,507 91.0%	4,640 66.31%
Consolidated Funds for Local Projects (Rs. million)	1,791 60.35%	1,927 55.95%
Total	27,544 80.1%	30,902 83.6%

GOSL Funding through small-scale Infrastructure Rehabilitation and Upgrading Projects

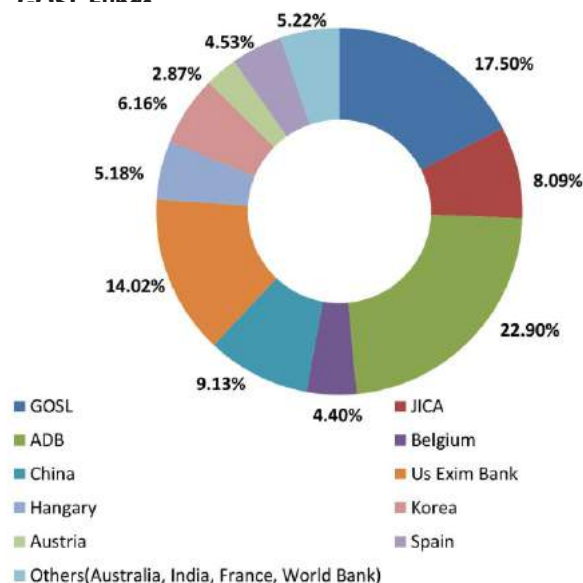
There are locally funded projects planned, designed and expended by the NWSDB. The implementation of the projects are supervised by the respective provincial staff and taken over by the provincial O&M staff when completed.

Under the locally funded Capital Works Programme, 24 new water supply projects and rehabilitation and augmentation of further 21 water supply schemes were continued in 2016.

68 % of the allocation has been utilized during the course of the year.

Most of the locally funded projects were started few years ago. Owing to small annual budget allocation these projects have been prolonged.

Foreign Aid Contribution by Donors and Related GOSL Funds



Rehabilitation and Improvement of Existing Water Supply and Sewerage Schemes

The NWSDB continued to rehabilitate and improve existing water supply and sewerage schemes using allocation of Rs. 906 million of its own finances in 2016. These funds were used to improve the quality and quantity of water supplies and maintain sewerage schemes, maintain NWSDB assets and undertake related support services in operational activities.

That means NWSDB spent Rs. 445.75 million for rehabilitation, Rs. 101.42 million for reduction of NRW, Rs. 69.40 million for energy conversation and Rs. 13.68 million for replacement of capital assets. Priority was given to improvements in schemes where there are no donor assistance or major funding.

As a result, their Total Cost Estimates have increased due to price escalation. Furthermore, funds have not been released on time to settle the contractors' claims for the work done.

The GOSL allocations on Small & Medium projects has been reduced since 2015. This year, Rs. 1,500 million has been allocated under this category including Rs. 500 million allocated for Utility Shifting work.

District-wise Capital Works Programme 2016

District	Allocation 2016 Rs. million	No. of Projects with Allocation	Beneficiaries
Ampara	19.65	2	30,000
Anuradhapura	14.36	2	155,855
Badulla	22.18	2	16,000
Colombo	18.93	2	30,300
Galle	87.86	3	71,700
Gampaha	3.30	1	20,000
Kalutara	30.46	1	120,000
Kandy	66.46	4	187,000
Kegalle	66.30	4	58,675
Kurunegala	73.21	4	106,185
Matale	27.96	1	400,000
Matara	58.59	2	10,000
Monaragala	0.40	2	16,000
Nuwara Eliya	89.64	2	5,000
Polonnaruwa	39.92	2	74,800
Jaffna	1.38	1	200,000
Ratnapura	73.99	6	152,900
Trincomalee	8.81	1	25,000
Hambantota	33.72	3	35,500
Total*	736.52	45	1,714,915

*In addition, Rs. 763.48 million has been allocated for inter provincial item including utility shifting.

Details of Projects Completed during the year 2016

RSC	Project Name	Agent	TEC Rs. Million	Beneficiaries
Central	Gr. Kandy WS Phase I, Stage II	JICA	4,164.00	183,000 beneficiaries 432,800 service Improvement
	Sripadastana WS & Sewerage	GOSL	210.00	Pilgrims.
Uva	Mahiyanganaya WS	Austria	2,743.56	33,300
Western	Towns North of Colombo - Stage II	JICA	6,490.00	400,000
	Kaluganga WS Phase I, Stage II	JICA	10,846.00	400,000
	Jalthara - Ranala WS	GOSL	329.90	7,100
	Kolonnawa Sewerage	GOSL	121.00	20,000
	Waste Water Disposal System for Ratmalana Moratuwa & Ja-ela , Ekala	SIDA	17,471.00	94,500
Sabaragamuwa	Gr. Ratnapura WS	Spain	4,202.63	140,000
	Embilipitiya WS	GOSL	810.20	84,000
	Godakawela WS	GOSL	288.80	22,500
North Central	Minneriya WS Stage II	GOSL	100.00	2,800
	Ippolagama WS	GOSL	798.00	152,000
	Parasangawewa WS	GOSL	31.60	1,000
Eastern	Dehiyattakandiya WS	GOSL	300.00	16,000
North Western	Divulagama WS	GOSL	46.67	1,950
Southern	Kataragama WS	GOSL	137	24,000
	Harithagama WS	GOSL	30.2	1,500

Employees

“Manpower Development & Training (MD&T) Division continued to provide training opportunities to employees as in the past. There were 41 new training programmes/workshops/ awareness programs introduced during the year 2016.”

Staff Strength

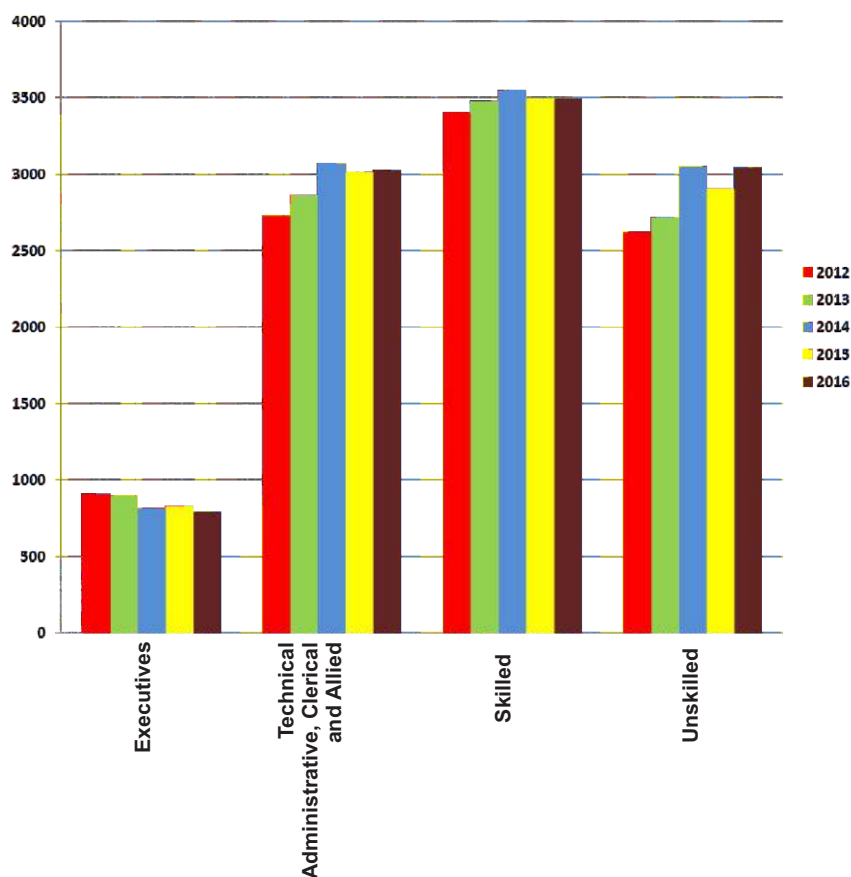
Staff Variation	2015	2016	(%)
(a) Permanent*	9,439	10,110	7.1
(b) Casual	09	3	(66.7)
(c) Contract	756	215	(71.6)
(d) Plant Technician Apprentice & GT	41	24	(41.5)
Total	10,245	10,352	(1.0)

* Staff recruited for foreign funded projects are excluded from the permanent staff figure

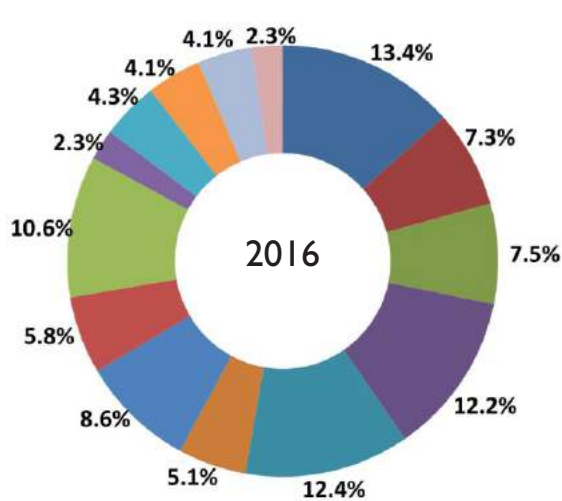
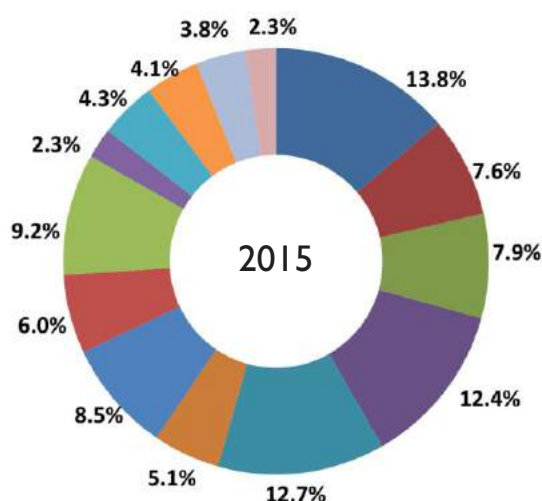
There were 215 contract, 3 casual and 24 plant technician apprentices in addition to a permanent staff of 10,110 at the end of 2016. Most of the contract employees were recruited to work for foreign funded projects.

There were 1,225 permanent, 25 contract and 22 plant operator technician apprentice recruitments of various staff categories during January to December in 2016. In the same period there were 554 permanent, 6 casual, 566 contract and 39 plant operator technician apprentice terminations which includes retirements, resignations, vacated posts and deaths in different categories of staff. This resulted in an increase of total staff by 107. The 24 plant operator technician apprentices are likely to be made permanent later.

Distribution by Key Job Function



Staff Distribution by Location



STAFF BENEFITS

- An Annual Bonus of Rs. 37,500.00 inclusive of a productivity incentive was paid during the year.
- Encashment of unutilized medical leave was continued as in the previous years.
- Employees who had rendered an unblemished service to the NWSDB were felicitated at the World Water Day Ceremony held in the BMICH in March, 2016.
- Transport facilities were made available to the staff at a concessionary rate.
- Death donations were granted in respect of the permanent employees who had died whilst in service.
- Local/ foreign training facilities were provided to the employees.
- Tea allowance of Rs. 650.00 was granted for the employees.
- Loan facilities were provided via Government Banks (Housing loan and vehicle loan through the Peoples Bank and the Bank of Ceylon respectively).
- A Festival Advance of Rs. 10,000.00 was paid to the employees.
- Rs. 58,533,165.00 among 120 employees as 12 month loan and Rs. 435,980,920.00 among employees as 10 month loan have been distributed at a concessionary rate during the year 2016.

- Rs. 53 m (approx.) was incurred for the reimbursement of medical expenses of employees (including family members). In addition, medical expenses incurred for critical illnesses.

STAFF REMUNERATION AND BENEFITS

Comparison of Staff Remuneration in 2015 and 2016

Description	2015 Rs. million	2016 Rs. million
Salaries	9,925	10,104
Contribution to Employees' Provident Fund	856	902
Contribution to Employees' Trust Fund	214	226
Total	10,995	11,232

MANPOWER DEVELOPMENT & TRAINING

Manpower Development & Training (MD&T) Division continued to provide training opportunities to employees as in the past. There were 41 new training programmes/ workshop/ awareness programmes introduced during the year 2016. Based on the training need priorities identified through the senior Management and line-managers, employees of all categories were provided with the training through the three approaches namely, Formal In-house Training Programmes, Seminars and Workshops; Training at Other Training Institutions within the Country and Overseas Training & Official Visits.

This division has conducted 229 In-house Training Programmes during the year 2016 and trained 922 Managerial, 2768 Executive, 2068 Supervisory, 2095 Clerical & Allied and 1154 Operational category totaling to 9007 employees of various categories of NWSDB. Other than the newly introduced programmes, 46 other training programs were conducted in-house during this period.

Under Training at Other Training Institutions within the country, MD&T division arranged training for 197 employees externally through local training Institutions covering a total of 2429 training days. This includes PhD, Masters and Postgraduate programmes conducted by local Universities and Diploma and Certificate courses conducted by various recognized Institutions such as National Institute of Business Management, Institute of

Supplies and Material Management, Institution of Engineers Sri Lanka, Ceylon German Technical Training Institute, Center for Housing Planning and Building, etc. Further, employees were nominated for several short courses in areas of Human Resources Management, Supply Chain Management, Construction Management, Mechanical and Electrical fields, Machinery Operations and maintenance, etc.

Overseas short term trainings were provided for 88 employees of the Board with the financial assistance from ADB and other bi-lateral short term fellowships from JICA, KOICA, ITEC, AIT with EBARA, Asian Productivity Organization, WHO and Singapore Cooperation Programme & Chinese Academy of Science, etc.

In addition MD&T Division facilitated official visits for 145 officers in respect of Pre-shipment Inspections, Factory Inspections, Contract negotiations, Twinning Programmes, etc. through various projects implemented in year 2016.

During the year 2016 as long term fellowships, the M.Sc. Programmes in Water Science and Engineering Specialization Hydraulic Engineering River Basin Development sponsored by the Netherlands Fellowship Programme, Water Management Specialization Water Resources Management sponsored by the Netherlands Fellowship Programme and Sanitary Engineering sponsored by the World Bank / Joint Japan Graduate Scholarship Programme (JJ/WBGSP) have been received by the NWSDB Engineers for fulltime study abroad.

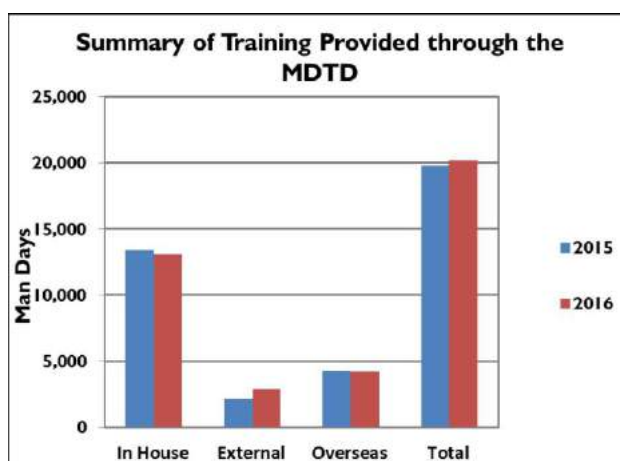
Summary of Training Provided for Internal Staff.

No.	Type of Training	No. of Trainees			Man Days
		Programme	Progress		
			Number	Percentage (%)	
1.	Formal In-house Training	4,400	9,700	205	13,092
2.	Overseas Training and Visits	80	236	295	4,212
3.	In country external Training	180	197	109	2,429
4.	Conducted by External Institutions	240	480	200	480
Total		4,900	9,920	202	20,203

In addition to all these programs provided for the internal staff of NWSDB under the above three categories, On-the Job training was provided to Apprentices (Undergraduates, NDT/HNDE Students, Craft Apprentices and students of Technical Colleges, Institute of Chartered Accountants, A.A.T. Vocational Training Authority, National Apprentices & Industrial Training Authority (NAITA), etc.)

Summary of on the Job Training Provided for Apprentices from External Institutions.

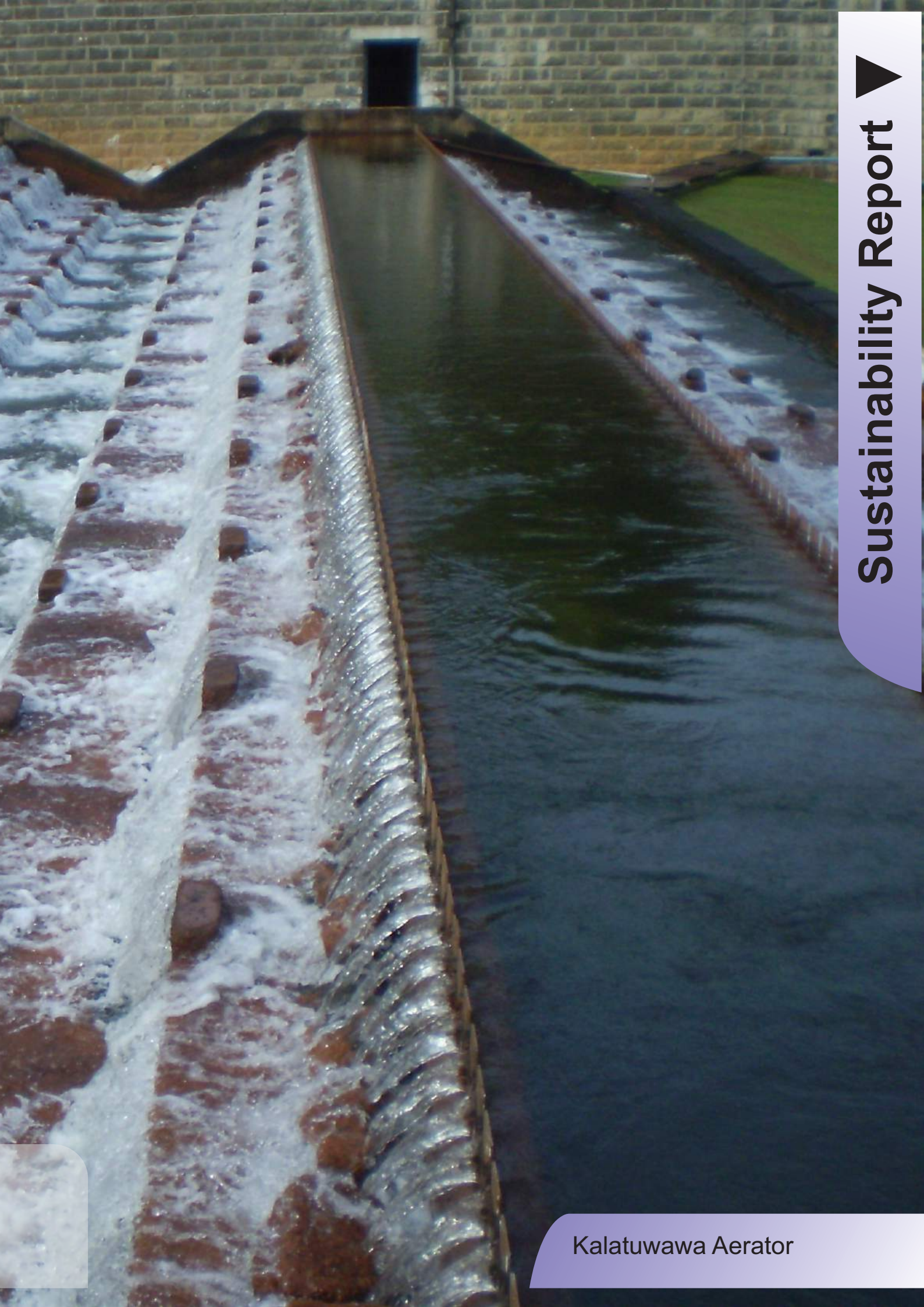
Nr.	Category	Nr. of Trainees	Man days
1	Undergraduates	134	12,573
2	Technical Trainees	25	
3	Accounting Trainees	02	
4	Clerical & Other Trainees	11	
Total		172	





***“Clean water, the essence of life and a brithright for everyone,
must become available to all people now.”***

- Jean Michel Cousteau



Information Technology Solutions For Improving Service Excellence and Operational Efficiency

During the last few years, NWSDDB focused mainly on Information Technology improvements with the understanding that Innovative IT Solutions will immensely contribute to achieve service excellence and increase operational efficiency of the organization. Introducing properly designed IT solutions for streamlining the business processes and operational procedures were the top priority of the IT Division during the year. While maintaining the existing legacy systems for financial, HRM and Inventory management activities, IT Division was able to develop and implement a comprehensive solution for commercial operations of the organization. This solution which commenced its operations from year 2015 with most essential functionalities was extended further to cover more and more functions that are crucial for streamlined commercial operations. Keeping in line with the evolving e-government concepts, an online customer care portal was launched facilitating the customers to obtain important commercial services through internet.

Commercial Operations Management System

The need for replacing the decade old legacy commercial billing system was a burning need of the organization and as a result IT Division embarked on development of a new solution for Commercial Operations in mid 2015. After completing the development activities in a short time frame of 4 months, the field testing of the solution was continued for 2 months at Dehiwala Region. The system commenced its live operations from January 2016 island wide.

The solution was designed as a web based application with a central database. The solution is hosted at the Data Center in Head Office and facilitates access to users mainly through the IP VPN connectivity and also through Internet utilizing remote access service established at Head Office. History records of payments, bills and various other transactions of over 2 Million customer base are maintained in the central database.

The solution consists of 7 core modules along with 3 supplementary modules. The seven core modules are the billing System (handles all billing related functions), Payments System (handles all payment collection functions), Profile Management System (handles all functions relevant to customer profiles), Legal System (handles all legal recoveries functions), e-Services Module (handles the customer services offered online through the online services application), Administration Module (handles all system administration functions) and the O&M Services Module (handles the customer complaint management and field activities including

NRW activities).

The supplementary modules are the Online Services application (offering the online services to the customers, hosted separately), Management Information Portal (generates the Management Information in textual, graphical or dashboard forms) and the End user Support Portal (for assisting the end users of the solution).

The Commercial Operation Management System is considered as the most important IT Solution of the organization and it is one of the remarkable achievements of the organization thanks to dedicated development team and commendable support from top management and all other stakeholders specially from Commercial Division.

The solution has a unique architecture which facilitates incremental development strategy based on agile development concepts. Continuous improvements are being made and through out the year many new functionalities were added to the system.

A mobile app was developed for meter readers to capture the meter readings and calculate the bill without using the calculator. This facility is intended to increase the accuracy of billing and eliminate the need for data entry at regional offices. This facility was tested at Dehiwala region and it is ready for implementing at islandwide regions in near future.

Screen shot indicating the new modules of the solution.



Customer Convenience through Innovative Technologies:

Innovation is the key factor in improving public service. While e-Government concepts are emerging as the driving force in improved government service delivery mechanisms, the technologies such as Geographic Information systems (GIS), SCADA systems, SMS and mobile bases technologies are fast emerging as platforms for innovative solutions in the public utility sector worldwide. Keeping in phase with these new trends, throughout the year,

NWSDB has made remarkable attempts to adopt these emerging technologies to enhance the operational efficiency, service quality and customer care services ensuring better customer satisfaction.

Call Center Operations

NWSDB operates a 24 hours Call Center facility to help customers to lodge their complaints and grievances through hotline 1939. The software modules required for the call center facility were developed /implemented by the IT Division. The software package for capturing and processing customer complaints with immediate feedbacks / messages to customer and relevant NWSDB officials through SMS is the centerpiece of the Call Center operations. This solution has been in operation for the past 6 years and a major upgrade to the software solution was done with the development of Commercial Operations Management System. The Call Center software is now a module of the new Commercial Operations Management System.

Other Software Solutions

There are several legacy software solutions to cover important subject areas such as financial functions (GL System), HRM /Payroll activities and Inventory Management functions. Continuous Improvements to these systems to suit the changing business requirements were carried out during the year 2016.

Official Web Site

The Official Web Site of the NWSDB was updated continuously to reflect the most current image of the organization. While providing most up-to-date information about the organization, certain interactive

services have been incorporated to the site to enhance the customer interactions. Application forms, service request forms, leaflets, publications etc., are available for the users to download. Details about the important events, notices, news items are updated regularly.

The tender notices, job opportunities, procurement notices, etc., are some of the most popular sections of the site. Facilities are available to send the customer feedbacks and submit complaints/grievances. The official web site has been converted to a content management solution using open source web design and development methodologies to facilitate more effective content updating process.

The new web site has facilities to accept payments on water bills online using credit cards.

IT Infrastructure Facilities

NWSDB constructed a state of the art data center at Head Office with a disaster recovery facility at RSC (WN), Kadawatha. All the major locations of NWSDB are connected to Head Office data center through an IP VPN solution provided by Sri Lanka Telecom. At Head Office complete structured cabling solution consisting of fiber backbone and CAT 6 cabling has been established. Over 3000 personal computers and large collection of peripheral devices are connected to islandwide internal network of NWSDB.

In order to facilitate the mobile users and portable devices to access the IT Solutions of NWSDB, a complete Wi-Fi network has been established at Head Office. Internet and email has been provided to all the officials who need such facilities for their daily activities.

Commercial Activities

Installation of water meters to each premises commenced in early 1980's and billing of consumption was initiated in 1984. Pricing of water is bit controversial as different person view it from different angles. The initial investment for water supply and sewerage is very high. The benefits are enjoyed for many years. Many are not aware of the cost of supply. Urban population expects 24 hour water supply and sewerage facility. The costs of service vary for different places. The tariff design should bring in sufficient revenue for financial stability of the organization. The low income house hold should be in a position to get its water requirement at affordable price. To satisfy this requirement various tariff has to be used to cross subsidies.

Domestic water sale is 74% while corresponding revenue is 61% and nearly 56.5% of domestic customers use water less than 100 l/ day which is much less than the design projections. Further 97.6% use less than 40 units

per month and 74.6% use less than 20 units per month. There are 188,000 customers whose consumption is Zero and out of this, 36,500 are commercial connections. The consumption tariff has been kept low from the time of introduction of metering. The revision of tariff has had little impact on the consumption pattern. There are 160,000 non domestic customers, they consume 26% of the water and bring in 39% income. Non domestic customers cross subsidies domestic customers.

Key Performance for the year

New Billing System

A test run of the new billing system was successfully done in Dehiwela O&M office with the help of IT division. As the new billing software process has been centralized, it is anticipated that generating the MIS reports would be quick and with improved quality.

The income generation has shown an increase where physical cash been received in accordance with the reporting system. Less than 30 day proration and the late charge calculation improved methodology gave an increase in collection. The application is very fast and user friendly. Group billing report enables institutional head offices to make payments for all the sub-office by a single payment. Dedication of IT team on this new billing system needs special recognition.

Mobile application is being tested to take meter reading and upload to the system; this will improve the service level and reduce administrative errors for NRW.

Tariff Revision

Once in three years the tariff revision is proposed and accordingly the process on revision of tariff was initiated. Deep analysis was made into historical consumption pattern and revenue pattern to arrive at a tariff proposal which will harmonize the existing discrepancy in cross subsidy. Proposal has been prepared, formal approval procedure for implementation is in progress. This is the first time the tariff proposal has been prepared solely by the commercial division for the GM appointed committee review and guidance. A gazette notification was issued, implementation is held back pending amendments.

Water bill payment

Water bill payments are collected by the cashiers, banks and agents. The head office cashiers serve 11,700 customers and collect Rs.48 million for a month. Banks serve around 81,000 customers and collect Rs.81 million. The super markets play a bigger role serving 200,000 customers and collect 50% of total collection. Now the customers are in a position to settle their monthly bills from any of the payment collection centers.

Customer Payment Option

	Cashier Head office	Banks	Super Market	Electronic Cash	Web Payment
No of Payment/month	11,700	81,100	212,740	74,700	751
Average Collection (Rs. m/month)	45.7	81.2	321.3	88.8	1.6

Arpico Supermarket also commenced acceptance of water bill payment. The option of settlement of payment through credit card commenced on 22nd March 2016 at the World Water day ceremony and over 1500 customers settle their payments through Credit/ Debit card. Postal Department has shown interest to provide its network for acceptance of water bills. Other than the cashiers all other places charge a convenient from the

customers. It is visible customers are looking convenient mode of payment.

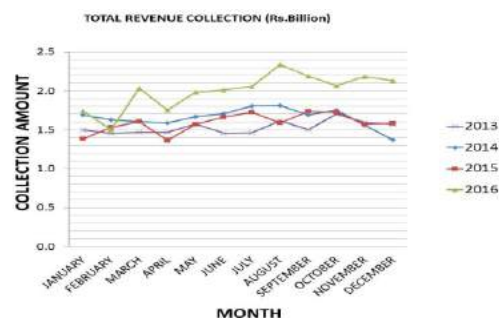


Launching of Credit Card Payment

Revenue Collection Pattern

Revenue collection followed a pattern similar to previous years. The commercial division had a important task to bring in more revenue in absence of proposed tariff revision being delayed in implementation.

The collection graph shows significant increase in collection during the year 2016 and a huge deviation from the past years.



Arrears Recovery

Revenue generation of the board had to be increased to meet the burden imposed due to the regular salary revision. Additional effort was made to collect the long standing arrears from disconnected premises. Special program was initiated to concentrate on over Rs. 100,000 and Rs. 200,000 arrears collection this resulted in bring in Rs. 7.34 million. Special meeting was initiated with Colombo area DIG for collection of current outstanding arrears and the long outstanding arrears. Details of an arrears of Rs.25 million have been given to police & Army to get their help on collecting the arrears and Rs. 2 million has been collected. This year 1,781 customers have settled arrears and the collection is around Rs. 47.6 million.

Two thousand three hundred and ninety five demand letters and 903 notices and certificates were sent as initiation of legal process. The Attorney General case initiation documents were prepared for 44 cases and 11 cases were filed. After finalization 3,233 files have been sent back to the regions.

In the regions more emphasis was initiated towards collection of arrears. This has resulted in 1,839 files being received to take legal process. All the regional offices played a key role in adopting different strategies to collect additional revenue from disconnected customers.

Management information reports

Monthly billing operation meeting is conducted by General Manager and MI reports are reviewed for the progress on predetermined targets. The monitoring methodology was revised to suit the current requirement. Emphasis was made on billing being done on 30 days and a significant improvement was observed where improvement was made from 34% to 59% in some regions. This contributed to increase income plus reduces NRW (administrative losses). New connection monitoring resulted in higher percentage of connections being provided. Updating of customer information emphasizes made with intention electronic communication could be initiated in future. The Billing and collection performance report reviews the set targets monthly the debt age has reduced to a level of 0.67.

Quarterly reports are sent to Corporate Planning

division for reporting to the management on the progress and status. Addl. GM (Sewerage) conducts sewerage operations meeting monthly, necessary reports are prepared to show the revenue generated and the connections given.

Conducive Environment for Office Staff

Improvement to Office Working Environment

To meet the latest requirement, refurbishment was completed. The customer care center refurbishment has also been completed, giving the current trends, appearance and comforts. Customer queue management and service level monitoring will be done through network.

Productivity Improvement

One day Lecture was conducted for all the commercial officers on the topic of "Positive Thinking to Serve Better". Small group meetings were conducted with cross section of staff to identify the areas that needed attention to improve productivity. Suggestions given by the work team was discussed and approach and facilities were made to improve their skills by training/ access to knowledgeable persons. Knowledge sharing enabled overcoming many issues.

Rural Water and Sanitation

Performance and Major Activities in Rural Water and Sanitation Section

Among the performance and major activities in Rural Water and Sanitation section in 2016, the world water day was one major event. The world water day 2016 was held at the BMICH on 22nd March under the theme "Fresh Water and Jobs". In parallel to the main event, selection of the best small scale community based organizations (CBOs) was planned, visited, in each district and the three best schemes were selected. Further, the RWS section played a major supporting role in the events like Research and Development Study Symposium 2016, competition among school children (Posters / Art / Essay) and launching of a magazine at the main event which were held in parallel with the world water day.

RWS section carried out many awareness programs and field visits during the year 2016. Joint RWS annual workshop and Water Supply & Sanitation Improvement Project training program was held at Uva Management Development Institute, Palagahathenna, Passara from 6th- 8th October 2016. In Rahangala NWSDB Scheme Boralande and in Thushara CBO in Uthumpulligoda, Ratnapura; 60 cu.m and 40 cu.m pioneer steel water tanks were installed. CBO Forum meetings were held

in Mahawewa, Puttalam and Kalpitiya DS Divisions. Six RWS District units and 27 CBOs were visited in 2016. Simplified Water Safety Plan training programs were held in 6 RSCs and for Plantation Human Development Trust and Department of National Community Water Supply. A workshop was conducted for selection of Appropriate Technology (AT) for implementation of Rural Water Supply projects.

Under World Bank preparatory work, major supportive role was given to World Bank project in 7 districts and many key activities were completed during the year. Orientation program titled "Discussion on Project Implementation Strategies" was held at Randenigala. Criterial / guide lines for prioritizing the selection of new/ rehabilitation of water supply schemes were developed. Leaflets were developed and printed in Sinhala language for awareness. Digital maps with GS divisions named, were compiled and input in RWS website.

Translating three water safety plan posters developed in English and Sinhala into Tamil, preparing RWS training module for 2017 with the assistance of MPDT, sorting out nearly 25 year old RWS archives which had been unmanaged, and translating & Sinhala subtitling in educational videos for RWS awareness programs are some of the other activities conducted during the year.

With relevant to SACOSAN VI, as discussed in the 9th ICWG meeting; launching the Regional Center for Sanitation (RCS) in Sri Lanka, is in progress. Under rainwater harvesting, four workshops on policy/ laws of rainwater harvesting were held for local government officers in 4 districts.

Under the second conference of India Ocean Rim Association water science and technology core group, a two day expert workshop on "Economical Desalination

Technologies for the Developing Countries by Developing Technologies" was held in November at Hilton Colombo Residences.

Action taken to open up more channels of data collection and speeding up inputting data, enabled to improve the completeness of RWS Master Database. The piped rural water coverage by CBOs is 10.6% as per data compiled at end of 2016. A statistical guide book for community based water supply is being finalized.

Public Awareness Programme

Public Relations (PR) unit various education and awareness programmes targeting customer groups, school children and consumer societies. Major focus was placed on water conservation, environment aspects and protection of water bodies etc. This has been done throughout the country conducting 48 programmes for schools and 9 programmes for government institutes and private sector.

Various events were held to mark the World Water Day 2016. Speech and art competitions were conducted for schools in Gampaha, Polonnaruwa and Matara Districts.

Under SACOSAN, the NWSDB with the guidance of the Ministry of City Planning & Water Supply and various other interested parties conducted programmes to raise awareness among the public.

PR Unit involved in publishing of periodicals to educate the target group on many different aspects related to the water services. The issues of water magazine (Jalaya) for 2016 were published in the months of March (Water and Jobs) and June (Suwabara Diviyakata Suwathi jaiaya). The September issue of the water magazine was pending by

end of the year. The theme for the September issue is "Productivity and Water".

During the year, spending Rs. 270,502.75, the PR unit has distributed leaflets, brochures and conducted programmes for those who are interested on the importance of water conservation.

The PR unit also involved in Mass Media Publicity works. Important details related to the NWSDB were appropriately provided to the media (print and electronic). Holding press briefings by the NWSDB is one of the main tasks. Misleading articles about the NWSDB being corrected.

For responding to Public complaints, prompt actions were taken related to various issues raised by the public or the water consumers. Necessary guidance was also provided towards the education of students countrywide.

All the staff of the section tends to work in unison having a close rapport with each other while the working environment is appealing to all.

Groundwater

Groundwater section is functioning with nine provincially distributed regional groundwater units with centralized investigation section.

During the year 2016, the works related to Groundwater activities were hydrogeological investigations, construction of deep and shallow boreholes, assessment of aquifer and wells, flushing & development of shallow and deep borehole wells, installation of hand pumps, repair and rehabilitation of hand pump tube wells, implementation 3 Tier system for maintenance of hand pump tube well, bed rock profiling & stream gauging, groundwater studies & monitoring.

During the year, 664 hydrogeological investigations, 301 drilling (construction of deep & shallow boreholes), 54 hand pump installations, 725 hand pump repairs & rehabilitations, 431 flushing & well development, 123 pumping tests, 04 jetting and 04 flow measurements activities were carried out. By conducting the above activities, Groundwater section was able to earn

Rs. 198.2 million for the year 2016.

New groundwater sources were added for Narammala (576 cu.m/d) and Anamaduwa (100 cu.m/d) WSS in Northern province, Yakkala-Gampaha WSS (696 cu.m/d) in Western province, Habarana, Medawachchiya and Galnewa WSS in North Central province and Tangalle WSS (1500 cu.m/d) in Southern Province. New groundwater sources were developed for Thihagoda WSS in Southern and Mulankavil proposed WSS (1350 cu.m/d) in the Northern Province. There were also development of existing intake wells at Wessagiriya-Tissawewa, Habarana, Medawachchiya, Galnewa, Talawa, Horowpotana, Mihintale, Oyamaduwu, Kebithigollawa, Padaviya and Kahatagasdigiliya WSS in the North Central Province, Hakmana, Udugama and Kirinda WSS in the Southern province, Elpitiya in Welamboda WSS in the Central Province and Minuwangoda WSS in Western province.

Further, new groundwater sources were found for Thorayaya (864 cu.m/d) new WSS, Hiripitiya (two boreholes drilled) new WSS and Andigama (dug well) WSS in the North Western Province. In addition, 122 Hand Pump Tube Wells were rehabilitated in CKD affected areas using 15 million CKD funds.

For technical Officers, mechanics and caretakers in Ampara, Batticaloa and Monaragala districts; five training Programmes on “Public Hand Pump Tube Well Maintenance” were conducted with Plan International Sri Lanka. Five number of One day programme on “Knowledge sharing and Pumping Tests on ISO standards” for Hydro Geologists in the NWS&DB.

As preparedness for managing water for predicted drought situation in 2017, many activities have been planned to be conducted through the groundwater section.

The following groundwater related studies were also continued in 2016.

- Environmental Isotope Studies for identification of Groundwater Dynamics in the Murunkan basin and kidney disease affected Wilgamuwa area in Mannar and Matale districts respectively.
- Risk assessment on pumping wells and groundwater vulnerability of aquifers and in the Buttala Divisional Secretary area, Monaragala District. Two Nos. Data Loggers were installed in Maligawila and Buttala areas for online groundwater level measurements.

Energy Management

There are four sections under the M&E services division. They are the Energy Management unit, M&E Support Service Unit, Transport Section and the Building Maintenance Section.

Energy Management Unit

In NWSDB, the annual cost for the electricity consumption is nearly Rs. 3,840 million and 93% of this spends for water production and pumping (Rs. 3,600 million) and NWSDB is the main consumer for Ceylon Electricity Board. Hence energy saving programme was introduced in the year 2004 to reduce this huge electricity consumption and it achieved substantial progress and activities were upgraded to a higher level qualitatively and quantitatively for the last 12 years. The M&E Services Division is fully equipped with energy measuring equipment to carry out any type of energy audits for pumping systems as well as energy management works. The tariff category rectifications, electrical & mechanical improvement works and energy saving programmes which were completed during the period of year 2004 to 2016 has resulted a high energy

and cost savings. It is recorded that the cumulative total saving due to energy conservation project implemented this period is Rs. 481.4 million

Thirty numbers of energy audits were carried out during the year 2016 and out of that 20 projects were completed. The cost saving due to these projects is Rs. 18.2 million and expenditure for the same is Rs. 73.5 million. Also it is decided to implement 19 new projects during year 2017 and cost investment for these projects including ongoing projects in 2016 is nearly Rs. 163 million.

Also M&E Services division has planned to implement new bench mark for new proposals which are at planning and designing stage. This needs making the staff of NWSDB who involve in designs as well as O&M aware, to have a better energy efficient systems in NWSDB. For this purpose, M&E Section has planned to conduct awareness and training programmes during the year 2017.

M&E Support Service Unit

Preparing M&E tender documents and specifications for vehicles, water meters, measuring equipment and other mechanical and electrical equipment as well as supply, installation and maintenance of level monitoring system are handled under this section.

Transport Section

There are 1,749 number of vehicles in NWSD and the Transport Section is responsible for all the administration issue of these vehicles including licenses, insurance,

accident repairs, transferring etc.

Premises Management

This section handles all repairs, maintenance and operational activities in entire head office and official quarters in Rathmalana including Badovita Quarters (7Nos.), Soysapura (B20,B23) Quarters (32Nos.), Soysapura (C23,C24) Quarters (16 Nos.), Soysapura Bachelor Quarters (64 Nos.) and Rawathawatte Quarters (7Nos.).

Sociological Activities

In order to improve the total productivity the business efficiency, being the Facilitator of the training committee, coordinated with sectional heads for process improvement and prepared writ-ups on Productivity Improvement by the Sociology Section and Need for Capacity Development of Sociologists.

As Development Activities, Social Impact Assessment and Feasibility and Pre-Feasibility Studies and Impact Assessment studies were conducted on small-scale water supply and sanitation projects in several RSCs. Impact Assessment Studies on the use of RO Plants in CKDu areas and operation of Rain Water Harvesting System in Anuradhapura and Polonnaruwa districts were also conducted.

Water Quality Surveillance (WQS) and Water Safety Plans (WSP) were coordinated by this section and were involved in a number of programmes, meetings, and workshops on WQS and WSP. Engaged in the implementation of catchment

protection activities in Haguranketha, Deewala, and Kitulgala CBO managed water supply schemes and attended awareness programmes and field visits on WSP in Kandy RSC. Household Survey and Impact Assessment (IA) Study on WSP were also conducted. Organized and coordinated with stakeholders to conduct SDG meetings and participated in the second India Ocean Rim Association Water Science and Technology Core Group Workshop.

For enhancing community mobilization process, mechanisms were established at regional level with the assistance of Regional Sociologists and strengthened the network of CBO managed schemes under RWS Section. WSP programmes in CBO schemes were conducted for activities related to catchment protection with active participation of members of those organizations. After analyzing the issues, village selection criteria formats were prepared for new and existing CBOs.

As Institutional Development activities, many Board Papers, TORs and Circulars relevant to the sociological activities were prepared during the year.

Non Revenue Water Reduction

Non-revenue water section administered under DGM (W-C) aimed to increase water revenue by reducing the unnecessary losses made through free water outlets, minimizing the unauthorized consumption and to formulate policies to create reliable water supply to communities.

The Water Loss Management Section focused on non-revenue water (NRW) reduction by various methods for managing and controlling NRW. In the Colombo city, some of the old pipe networks have poor carrying capacity because of aging, forming a large number of leaks making the system fail with higher NRW level. As a result of that pressure drop, the top management has taken a decision to build up the pressure which caused the NRW level become higher.

It is essential for the managers to break down and identify the key components of NRW. Ensuring the accuracy of data used to calculate the level of NRW is also very essential.

Collecting accurate data from production meters and customer meters helps to calculate the NRW level accurately and facilitates active leakage control activities.

During the period 2008 to 2016 NRW Colombo city has been reduced from 53.96% to 45.42%, which resulted in

20.3% increase in sale of water, while almost the same amount of water was supplied to the city of Colombo.

Underserved Settlement Water Supply (USS)

Disconnection of common outlets and provision of individual connections in underserved settlements on concessionary terms is called Randya Program. Provision of concessionary individual connections through the disconnection of stand post was initiated in 1990. Due to various reasons, all couldn't obtain individual connections which resulted in common outlets remaining.

There are 1,571 underserved settlements in Colombo City. The latest plan of the Government is to relocate them outside the Colombo City. The benefits of having individual connections improve hygienic conditions and improve quality of life.

Common outlets are metered by forming small communities and revenue is collected. New connections for individual premises can be obtained by filling the application and making the required payment. During this year 234 connections were provided after disconnection of 58 common outlets.

Customer Society (reduction of unbilled authorised consumption - Free Water)

In 2011, innovative program was initiated to measure the consumption from this common outlets by installing water meters and forming societies who identified the users and maintained the outlets. Nominal charge was introduced for the water usage.

Already 1762 societies have been formed and their monthly consumption was 135,282 cu.m/month, representing 3% of the water consumed by Colombo City. Table 1 shows the formation of Societies and Consumption by Colombo city. To sustain the program regular visits are made to the societies who have arrears over Rs. 2,000. Special program mobilizing the Sociologist was carried out to encourage customers who are having over Rs 2,000 arrears, and the outcome was successful.

Table 1: Formation of Societies and Consumption

	2013	2014	2015	2016
Societies Billed	1,578	1,735	1,756	1,762
Billed Consumption (m3)/month	166,103	159,445	147,923	135,282
Revenue (Rs.)	576,609	624,438	584,933	478,796

Reduction of Unauthorized Consumption

Identification of unauthorized consumption is carried out by responding to information received from the general public, programmed searches in area for unauthorized consumption in commercial premises, checking all premises in identified areas in a planned manner to cover the whole Colombo City.

During this year 804 detections have been made and Rs. 33.55 million has been levied. Table 2 shows the changing pattern of Unauthorized Consumption Detection. It is evident that number of detections of unauthorized consumption detection has reduced due to the awareness creation, metered water being available in the low income settlements etc.

Table 2: Unauthorized Consumption Detection

	2013	2014	2015	2016
Premises Checked (Nr.)	13,343	12,812	12,250	13,417
Detection made (Nr.)	1661	1,521	1,196	804
Amount Levied (Rs. m)	69.64	54.77	42.19	33.55

NRW Management

Within Colombo city, critical areas were selected and inflow measurements were taken after establishment of closed boundaries. Night survey, culvert survey and house to house survey were carried out to identify visible leaks.

In addition to identification of leaks, flow and pressure measurement, area engineer wise NRW monitoring every 6 month, location of underground Information, valve Location Identification, leaks Survey and development of a leak monitoring facility were carried out.

The Greater Colombo Water and Wastewater Management Improvement Investment Programme (GCWWMIIP) is being implemented with the financial assistance from the ADB to replace the old water supply network with new pipes and introduce DMA/GIS based NRW management system to reduce NRW in Colombo City below 18%.

NRW activities carried out by the project are closely monitored to achieve the stipulated NRW targets.

NRW percentage of Colombo City and RSC(WC) area has been reduced by 0.44% and 1.2% respectively during year 2016.

- NRW activities were initiated in two DMAs in Kolonnawa area
- Development of a leak monitoring facility

Supplies & Material Management

Supplies and material management are important functions in the overall operation of the NWSDB activities. The required materials for NWSDB's operation needs to be readily available and it should maintain correct purchasing policies and procedures for procurement and storing of the items.

Necessary chemicals were successfully supplied throughout the year 2016 without any interruption. The related staff of supplies and material management helped to provide all the new connections during the year and it maintained a buffer stock too to face any critical situation.

Had a high standard of clearing of shipments for more than 300 shipments coordinating with the following institutions such as the Ministry of City Planning and Water Supply, the Government Treasury, Sri Lanka Customs, Banks, Sri Lanka Ports Authority, Shipping Lines, Insurance Companies and clearing agent formalities, relevant project and O&M cargo ensuring efficiency to avoid paying demurrages.

During this year, it was able to save more than Rs.150 million by redistributing excess materials from RSCs Island wide without purchasing new materials.

Arrangements were made to produce and circulate a CD

and a booklet for non-moving items available in the stores Island wide for easy reference and to use when the requirement arises. A process is underway to link all the 332 stores throughout the Island by an Inventory Management Software and it is going to be implemented in three stages. Until it is fully functioned, it is being planed to introduce bulk SMS system in order to find out excess and nonmoving items to issue for the required RSCs. In addition arrangements have been made to obtain details to analyze Rs. 6 billion stocks value and it was found that Rs. 1.8 billion worth of stocks are from remaining items of the completed projects, Tsunami and UNICEF aids. Apart from that, 22 contract documents at a worth of Rs. 803 million were prepared in 2016. In this year too, arrangements were made to collect redundant and unproductive items from all 332 stores and tendering for sale to be done in January 2017. During the year, the section was able to win the 3rd place of annual productivity competition organized for Commemorative World Water Day. During the year 2016 this section has managed to achieve expected objectives within the budget allocations and overall performance of Supplies & Material Management was up to the expectations.

Research and Development

Analysis for the present (2016/ 2017) quality of ground water which was contaminated with waste oil in Chunnakam area, Jaffna (Stage II)

Results of the previous similar research in Chunnakam area, carried out during 2013 and 2014, revealed that contamination had spread up to 1.5 km and high concentrations were observed near the power station area. After the monsoon rainfall in 2014, the oil spreading pattern was changed and had spread up to 6 km from the power station area, but the concentration of contamination had showed reducing trends. At present, there is no proper or known boundaries of the oil contaminated area and concentrations. Owing to this, the NWSDB is continuing water supply to this area using bowzers.

Expected outcomes of this study are;

- 1.) Analyze the ground water quality of the 100 contaminated wells, selected from the previous study which had been originally identified as highly contaminated and another 50 wells to identify the extent of contamination.
- 2.) Study the extent of waste oil penetration in the Chunnakam aquifer and define the boundaries of the contaminated area.

- 3.) Compare the results with the previous study.
- 4.) Identify the Lead (Pb) and Cadmium (Cd) (Heavy metal) contamination in the 50 peripheral oil contaminated wells.
- 5.) Conclude on the extent of the contamination and comment on the suitability of groundwater in the study area for drinking purpose. Total cost estimate for the research is Rs. 2.117 million.

Continuation of research on ground water dynamics of the Murunkan basin: An environmental isotopic study for effective management of Murunkan well field

Large scale ground water extraction without proper understanding of the ground water recharging sources, areas and ground water mixing etc., could arise problems related to the ground water quality and quantity. This research was carried out in order to understand the relationship between ground water and surface water bodies, contribution of Giant tank and Malwatu oya to ground water recharge and the potential of seawater intrusion during ground water extraction. The total estimated cost for the research is Rs.1.256 million.

Analysis of chemical parameters and environmental isotopes of water samples (Rainwater, seawater, ground water and surface water) were done seasonally in two years. Collection of water samples and testing completed. Data processing and report writing are in progress.

Continuation of risk assessment on pumping wells and ground water vulnerability of aquifers in Buttala divisional secretariat area of Monaragala district

During the rainy periods, residues of agrochemicals could seep in to aquifers/pumping wells and ground water quality of the said aquifers/pumping wells will be at risk. In addition, contamination may be increased due to the urban and domestic waste disposals. The aim of this research is to find the risk of unplanned pumping and to develop measures to minimize the risk and to maintain the water quality and quantity of the pumping wells in sustainable levels. Total cost estimate for the research is Rs.3.933 million. Groundwater samples were tested seasonally in two years. Collection of water samples and testing have been completed. Data processing and report writing are in progress.

Continuation of research for historical evidences on chronic kidney disease (CKD) based on life pattern with respect to environmental and social factors

The increasing kidney patients in the Wilgamuwa divisional secretariat area and other nearby areas was a reason for initiating this type of research. It is planned to study the relationship between drinking water causes for Chronic Kidney Disease (CKD) and the impact of life style due to pollution of groundwater. Total cost estimate for the research is Rs.2.102 m. Ground water samples have to be tested seasonally in two years. Water sampling and testing are being continued. Also, a questionnaire survey has to be carried out.

Continuation of research on evaluation of adequacy and effectiveness of CBO tariff system for sustainability and diversification

At present CBOs are playing significant role in providing drinking water supply facilities for country's population. Objective of this research was to assess the financial capacities of the existing CBOs who manage community water supply schemes, for better functioning as well emphasizing sustainability. Questionnaire surveys were carried out in selected CBOs. The total cost estimate is Rs.1.27 m. Data collection and analyzing were completed. Report writing is being continued..

Continuation of analysis of Organochlorine and Organophosphate pesticide residues in drinking water sources in Nuwara Eliya, Welimada and Bandarawella areas

Objective of this study was to determine the amount of pesticide residues in the water sources in Nuwara Eliya and Welimada areas and thereby to develop a data base of pesticides used in above said areas. The total cost estimate is Rs.2.30 m. Collection of water samples and data analysis have been completed. A questionnaire survey and report writing are pending.

Collection of water samples using a vacuum filter for testing pesticide residues

Continuation of sanitation problems in the plantation sector, special reference to Demodara Estate, Demodara in Badulla District.

Sanitation is a basic and essential need for healthiest life, therefore this study identifies the factors which determine the plantation sector sanitary issues, also this study intends to analyse the plantation people's attitudes about healthiest sanitation condition and find the alternative ways to overcome the issues. The total cost estimate is Rs.177,000 and the research is being continued.

Continuation of monitoring Reverse Osmosis (RO) Water Treatment Plants

RO Plants are being used to provide good quality water for Chronic Kidney Disease of unknown etiology (CKDu) affected areas. The NWSDB has installed 63 RO Plants already in Anradhapura and Polonnaruwa districts. Out of those, water quality in 32 RO plants are being continuously monitored by the R&D Section, and provided instructions for improvements as well as for remedial measures for prevailing issues.

Continuation of study on defective water meters to find out causes and precautions for being defective

This study was started with the objectives to find out reasons for water meters being defective, ways of reducing and solutions for improvement. Under this study 215 defective water meters from Maharagama, Homagama and Kotte areas were collected, dismantled at Polwatta workshop and recorded reasons for being defective, looking at the inside. Data processing and report writing are in progress.

Continuation of design and monitoring of Package Water Treatment Plants (PWTP)

Design and handling issues related to PWTPs with the support of the P&D section for drawings and the workshop for fabrication are in progress as per requests by RSCs. Status of new plants and current issues are;

- 1.) Neelapola - plant has been completed. Raw water connection to be done by RSC(East),
- 2.) Sithulpauwa - Plant has been completed. Chemical house construction in progress. High lift pumps to be installed RSC,

3.) Muthukandiya - Final Drawings for Muthukandiya have been completed. However Location has been changed to Siyambalanduwa by the RSC,

4.) Yatiyanthota – Fabrication is in progress,

5.) Ulhitiya - Design has been completed and

6.) Mathurata- Design for 250 m³/ day capacity plant has been completed and submitted to World Bank funded Water Supply & Sanitation Improvement Project.

250 m³/ day capacity plant is a new design. Sinhala translation of Operation and Maintenance (O&M) Manual of PWTP has been completed and both English and Sinhala versions have been uploaded to the NWSDB web. Also preparation of the design manual is in progress. Issues with Constant head flow chemical feeding, filter clogging due to algae etc. are being studied.

Social Survey on New Connection to Analyze the Customer Satisfactions to upgrade the NWSDB Service

The NWSDB plan to provide more connections to uplift the service coverage. Hence, it is required to uplift the new connection service, provided by Area Engineers (AE) and other related officers. As such, the current new connection service has to be assessed to identify the pros and cons of the existing system. Therefore, before implementing a new survey, R&D searched for previous survey output to use as a baseline data. However, it was found that no such social survey or any study had been carried out to evaluate the consumer satisfaction in the process of providing new connections. In addition to that, promoting to get new connection from the system will uplift the income of the NWSDB. On the other hand, upliftment of the consumer satisfaction will significantly contribute to achieve the set targets.

The objective of the assignment was to measure the level of customer satisfaction on the process of providing new connections, while proposing ways and means of improving dialogue between the NWSDB and its' consumers for the purposes of improving downward

accountability and further enhancing the image of the NWSDB. The above survey was done in Maharagama, Panadura, Jaela & Biyagama areas, analysis, presentation to the management and final report were completed.

Special Event - Annual Research and Development Study symposium of the NWSDB - 2016

The second annual R&D study symposium was held successfully on 18th March 2016 at the BMICH with the participation of over 400 experts and professionals from the NWSDB as well as outside organizations. This event brought 32 technical papers including four papers from Universities on eight themes; Water Treatment, Social & Economical Aspects, Wastewater Management & Hygiene, Sustainable Growth, Ground water, Efficiency Improvements, Water Safety & Security and Non Revenue Water, to discuss and share the experience gained on water and wastewater sector.

The 1st symposium was held in 2015 and the NWSDB expects to continue, having this symposium annually in parallel with the World Water Day celebrations, aiming to provide a platform for scholars and researchers to present their findings to the NWSDB staff which will in turn benefit the organization as well as the country. Further, this conference emphasizes on the need to promote and support the Research and Development culture within the NWSDB.



2nd Research and Development Study Symposium 2016

Climate Change Adaptation & Disaster Risk Reduction

Catchment protection activities and Disaster Preparedness activities were conducted under implementation of Water Safety Plans.

CKDu Programme

Introduction

Chronic kidney disease of unknown etiology (CKDu) has become a major health problem in Sri Lanka. In Early Stages it was confined to North Central and Uva provinces. It is now prevalent in the North western, Northern, Central, Eastern, Sabaragamuwa and Southern provinces. Many of the victims are male farmers and agricultural labourers. Growing numbers of cases, however, are being reported among women and children. According to the World Health Organization (WHO), more than 15 percent of the population aged 15–70 years in the North Central and Uva provinces are affected with CKDu. Over 35,000 deaths from the disease have been recorded in the Anuradhapura district in the North Central Province since CKDu was first identified in 1991.

Proposed strategy

Accordingly, the National Water Supply and Drainage Board (NWSDB) developed a strategy and work plans to provide safe drinking water to CKDu affected areas as per recommendations by WHO and medical professionals. This includes short term, medium term and long term strategies.

These work plans have been endorsed by the Parliamentary Sub Committee on CKDu and have been implemented since 2013. The program covers the CKDu affected areas in all affected provinces.

Long term solution

- Covers the affected areas by new water supply projects.

Medium term solution

- Providing water supply extensions from existing water supply schemes to the CKDu affected areas.

Short term solution

- Providing bowser supplies for CKDu affected areas
- Establishing small Reverse Osmosis (RO) treatment plants to purify groundwater and supply the communities only for drinking and cooking purposes.
- Rainwater harvesting

Current Progress

Rs. 1000 million has been allocated for the year 2016 for CKDu relief related activities and this budget has been used for providing medium term and short term solutions for CKDu affected areas.

In addition 71 RO units have been installed within 2016 with the support of private sector.

The Project initiated in 2015 with Chinese Academy of science and NWSDB to investigate root cause of CKDU and identifying sustainable water treatment for CKDU attacked areas in Sri Lanka continued within the year. The project broadly focuses on identifying consistent water treatment technologies for CKDu affected areas in Sri Lanka and to provide safe, affordable and sustainable water supply.

A memorandum of understanding was signed between CAS and University of Peradeniya (UoP). Accordingly, the land was selected in the premises of faculty of engineering of UoP. The Chinese design team is currently working on designed of the advanced laboratory. The construction is expected to be completed by the year 2019.

A temporary laboratory was established in Kandy for initial investigations until the permanent laboratory is been constructed.

Water Safety Plans (WSPs)

The World Health Organization's (WHO) guidelines for drinking water quality recommended Water Safety Plan (WSP) as the most effective means of consistently ensuring the safety of a drinking water supply. Water Safety Plan implementation of Sri Lanka continued from the year 2015 under the advocacy and implementation support from the WHO. Eleven Urban WSP training programs were conducted for all RSCs under the Manpower Development Section of the NWSDB. With the commitment of NWSDB, WSP could be implemented in 87 urban WSSs which is about 26% of the total water supply schemes maintained by NWSDB. Further, the 26% of water supply schemes include all

major urban water supply schemes in the country such as Biyagama, Ambatale, Kandana, Greater Kandy, Kandy South, Thuruwila, Gallella, Konduwatawana, Greater Matara, Greater Galle Water Supply Schemes (WSSs). These schemes represent more than 60% of the total beneficiaries of NWSDB. In addition, 16 WSSs were evaluated by international WSP auditing programs. Hence, at the WSP strategic plan workshop, it was agreed on the road map for implementation of WSP in all WSSs under NWSDB by the year 2020 to have sustainable and efficient the water utilities.

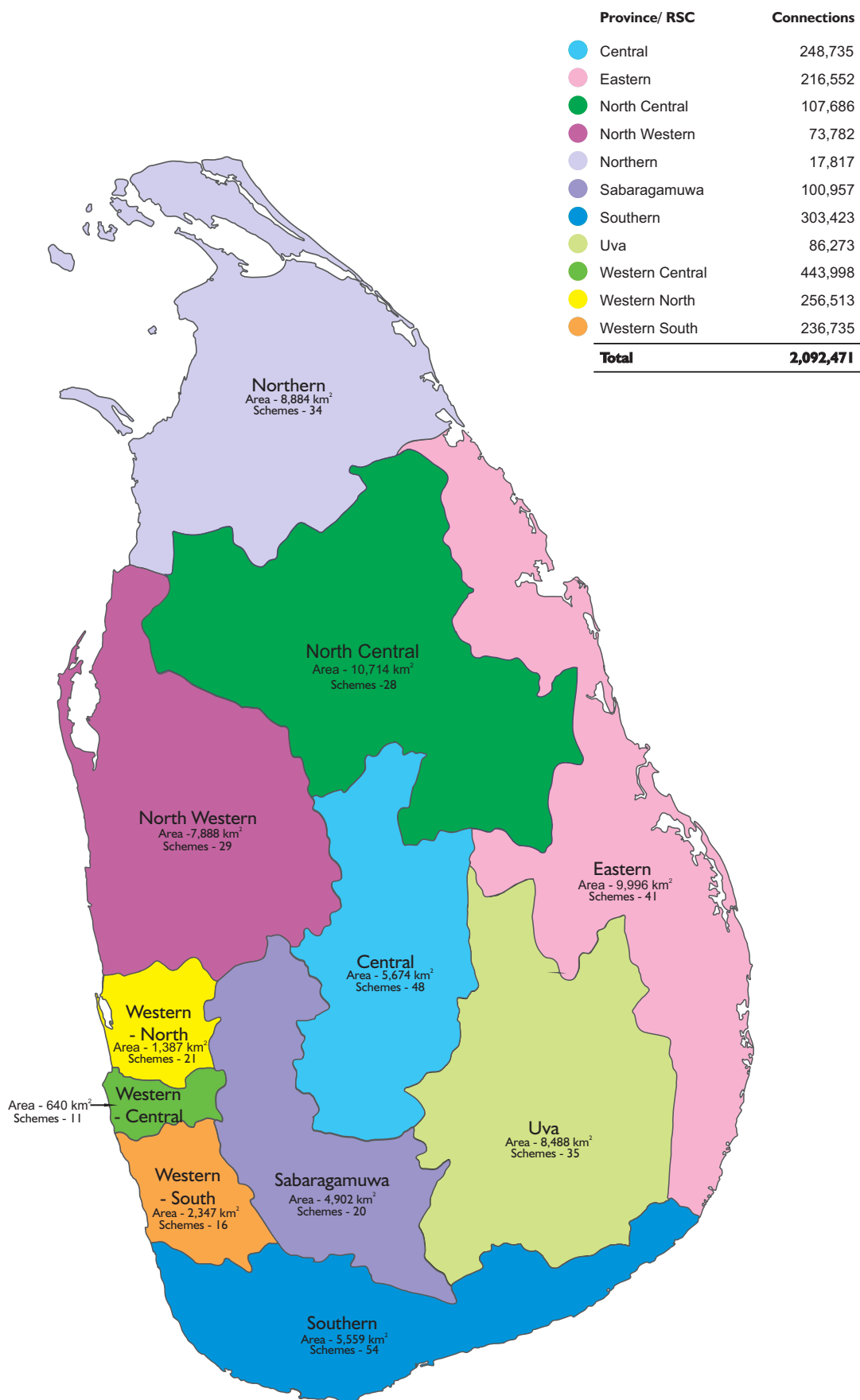


***“Water should not be judged by its history,
but by its quality.” – Dr. Lucas Van Vuuren***



Intake & Pump Station Greater
Dambulla WSS.

Regional Support Centres



REGIONAL SUPPORT CENTRES

New projects are originated from the 11 Regional Support Centers of the NWSDB. As representatives of the Project Review Committee, the staff of RSCs' closely coordinate the planning and regulatory procedures of new projects. Also, the existing WSSs and Sewerage Schemes are Operated and Maintained by them. Infrastructure Development, Reduction of Non Revenue Water, Energy Management and Institutional Development works and performance in water supply and sanitation sector of the RSCs have been included under appropriate sections. Some other important information which are not included in aforementioned sections are summarized below.

Western - Central

The western Central Regional Support Center (RSC-WC) consists of Colombo City North (CCN), Colombo City South (CCS), Kotte and Maharagama manager regions. Many special social events were taken place as usual in the RSC-WC region in 2016. Programmes to celebrate Sinhala and Hindu New Year, turning of new calendar year on January 1st, Vesak and Poson Festivals were arranged. Religious activities such as Bana programmes were also conducted by the RSC (WC) welfare society.

Many NRW reduction and Energy Saving activities were carried out in the RSC during the year. With Non Revenue Water (NRW) reduction activities (valve tracing, pipe line tracing, illegal usage detection, leak surveys, internal leak detection, defective meter replacement, leak repairs) carried out within the region, NRW could be reduced to 44.6% in Colombo city. The NRW figure for the RSC(WC) region is 34.3% which is 0.6% reduction from the last year.

NRW reduction itself is an energy saving; Further, valve balancing of pumping lines was carried out at Maligakanda Reservoir on rainy days and special holidays at night to reduce pumping cost at Ambatale. Installations of Variable Speed Drives to pump houses (Madiwela), changing fluorescent lights and CFLs to LED lights, changing of pumping hours in pump-houses more towards off-peak hours (Maharook Tower – CCS), replacement of inefficient old pumps in Pelanwatta and Pannipitiya (on-going) pump houses, prompt preventive maintenance at all energy consuming sites etc. were also some steps taken to save energy amidst a power crisis.

Pipe Line Extensions / Infilling Lines

Total length of pipe line extensions and common line improvements in Maharagama manager area is 110.8km for lines of diameter 63mm and above. Same in Kotte manager area is 87.4km. 4.1km of Cast iron pipe de-scaling was done by Colombo City managers in their areas. In addition to that, diameter 110mm and above lines of 62.4km length have been laid in Colombo City South area under Kaluganga WSP and more than 13,750 existing water connections were transferred to these

new lines during these works improving the condition of service to the consumers.

There are two LBF projects are going on for distribution improvement in Habarakada and Korathota areas amounting to Rs. 167.5 million and Rs. 173.3 million respectively. This will add a length of 10.2 km of diameter 63mm and above new pipelines to the system among other related infrastructure in the scope of the projects.

New Connections

A total of 22,126 new connections were given in RSC-WC region during the year. This is a 156% achievement of the target as the plan was to give 14,160 connections. The target was achieved by giving connections in each manager area were Manager (CCN) - 943, Manager (CCS) - 1,365, Manager (Kotte) - 6,123 and Manager (Maharagama) - 14,125.

Infrastructure and Institutional Development

As infrastructure and institutional development activities. Installation of a scrubber unit for the chlorinator house of the Elli House reservoir unit, near completion of the construction of new valve house at Maligakanda reservoir, improvement of Maligakanda stores and renovation of Maligawatte pump house under the manager Colombo City North were done in year 2016 among many other minor development activities which were carried out by the Operation and Maintenance managers with the funds available to them to improve infrastructure facilities.

Water Safety Programme / Productivity Improvement

Water safety plans were drafted for Kotte, Kolonnawa, Battaramulla and Colombo City North areas and implemented. Under this, CI/GI pipe replacements with PE pipes, shifting pipe lines near garbage dumps to avoid leachate entering water distribution pipe lines, contamination prevention work at storage reservoirs such as covering ventilation holes with protective mesh etc. were carried out.

Selected employees of all categories were sent for scheduled in-house, external and foreign training programmes to improve their productivity during work. RSC (WC) also organized two Productivity Development Workshops for this purpose so that a larger number of employees of the RSC could participate.

Meter reading audits, defective meter replacement work were carried out throughout the region to improve billing accuracy and the quality of service to the consumers.

Western - South

The Regional Support Centre (Western-South) comprises of RSC (WS) office and 03 Regional Manager Offices Manager (Dehiwala) Region, Manager (Panadura-Horana) Region and Manager (Kalutara) Region.

Many special events were taken place in the RSC during 2016. RSC (W-S) office achieved 2nd place in Medium Scale Service sector and Manager Dehiwala office achieved Commendation award in Small Scale Service sector of the National Productivity Awards – 2015 held by National Productivity Secretariat for the year 2015.

Special programme for positive thinking, attitude changing, quality circle tools of productivity improvements, Pirith Chanting on 1st of January, and New Year, Vesak, Posa and Christmas festival celebrations were arranged. Distribution of exercise books, school bags and other educational materials etc. for the students of Podu Jaya Vidyalaya, Angulana and distribution of food parcels and cloths to the flood victims at Kaduwela area were arranged in the RSC during the year.

Many NRW reduction activities were carried out within the region and the NRW was reduced by 3.7% in Panadura-Horana Region. It was able to maintain the NRW below 30% and 18% respectively in Dehiwala and Kalutara Regions even with many ongoing road rehabilitation projects during the year 2016.

Water quality surveillance and water security activities were carried out in several areas including few RWS schemes. All modules of water safety plan for 08 Water Supply Schemes, up to Module 6 for two WSSs and up to Module 4 in 4 WSSs were completed during the year. Two Water Supply Schemes, was technical audited by World Health Organization and they confirmed both systems are in average condition. The 125 Nos. of RWS Schemes being implemented within the region, are providing the service for more than 65,000 beneficiary families through 13,160 connections.

Furthermore, pipe line extensions for a total of 103.5 km were completed which consists of 19 km in Kalutara Region, 81 km in Panadura-Horana Region and 3.5 km in Dehiwala Region. Many rechargeable and rehabilitation activities were also carried out in all the regions throughout the year. Also RSC (W-S) is conducting accelerated new connection and pipe laying programme under the funds from Rs. 3.5 billion Local Bank Funded project for connection enhancement and funds from Utilization of Kaluganga savings.

Due to the dry weather condition, Manager Kalutara area faced critical problem of salinity intrusion. As a temporary solution, bowser supply was arranged to cover whole Kalutara manager area and EIA report was prepared by LHI to establish permanent salinity barrier across Kalu Ganga. Water Proofing Renovation of CMC

reservoir at Manager Dehiwala area was completed within period of 3 months without any water interruption and with minimum difficulties to consumers.

During the year 2016, 250 mm diameter DI Pumping Main from Maggona Pump House to Maggona town was implemented and it has reached to final stage (railway crossing, disinfection, line flushing & connection of main existing line are pending) using Verification Survey- Pre Stressed Concrete Tank funds. Beruwala pre-stressed tank construction work and 150mm diameter DI Pipe laying work Aluthgama-Mathugama road under Kalutara integrated water supply scheme stage – II was also completed during the year 2016.

The Special Investigation Unit inspected 1,608 suspected illegal connections and was able to confirm 186 illegal connections during the year. Out of those 186 illegal connections, 61 connections within Dehiwala area (454 connection were investigated in Dehiwala region).

Western - North



Biyagama - Mabima pipe laying work

Utility shifting of Municipal Council & Pradeshiya sabha roads from Capital budget are in progress. Eight no. of road relocations in Biyagama, Kelaniya, Mahara, Ja Ela areas & Eleven no. of road relocations in Negombo area have been started under Utility shifting funds.

Leak repair of Ground reservoir at Saunders Place, construction of stores and workshop for Bambukuliya WSS were done under Bi – water fund.

Construction of 1000 cu.m capacity reservoir and pump house for Katunayake Air Port /BOI Water Supply Improvement Project under JICA funds were completed. Pump testing and reservoir disinfection work to be done.

Defective meter replacement, repairing of reported leaks in distribution systems, repairing of reported service leaks, leak repair in clear water sump at Raddoluwa & repair works of Negombo water towers were some of NRW reduction activities carried out in 2016, using O&M and NRW funds.

Civil Works of Sacred City of Kelaniya & stores in TNC region, construction of Concrete Road at Area Engineer Office - Kadawatha, construction of Retaining Wall at Area Engineer Office-Kadawatha (constructed by O&M

Staff), repair of quarters at Raddoluwa WSS, Ranpokunagama WSS & Negombo production, construction of chain link mesh, gate and security hut at Negombo Lab, Yakkala WSS, Ranpokunagama WSS & Kirindiwala WSS, Construction of chain link fence at Minuwangoda WSS, are the works in progress of Rehabilitation funds through this year & Construction of stores at Katana also completed under Rehabilitation funds.

Installation of 04 turbine pumping sets for Mangalathiriya Intake, supply & installation of 04 gas chlorinators for Gampaha WSS & Yakkala WSS, supply of 250 kVA generator to Ranpokunawatta treatment plant, supply & installation of 03 bore hole pumps to Divulapitiya WSS, and 03 bore hole pumps to Minuwangoda WSS were done using Rehabilitation Funds. Service repair & instillation of 400 KVA old generator at Raddoluwa WSS, removal of old water pump in Dekatana WSS & installation at Sri Bodhi Tower as a Booster pump (using O& M funds), installation of CCTV Camera & sounds system for RSC (W/N) office (using JICA funds), were completed as Energy saving & Institutional Development Activities during this year.

Pipe line shifting for Colombo Katunayake express way, and Pipe laying in culvert crossing at Kotadeniyawa Mirigama road improvement project were carried out from Rechargeable funds & completed in year 2016. Further, pipe line relocation at Kurana railway reservation and Shifting of 600 mm DI pumping main in Nayake road were done due to railway line improvement & Pipe shifting at Ganemulla Flyover, Kaduwela Bridge, Temporary shifting of pipe line in Outer circular highway. Pipe shifting along the Kandy Road and for crossings in Central Expressway Project are in progress under the Rechargeable funds.

Intake improvement at Yakkala WSS was laying of 400mm dia. DI line to improve distribution capacity of Malwana area, relaying of 110mm dia. pipes at Pamunugama road, Defective meter replacement in Biyagama area, pipe laying at Matagoda road, laying of 160mm PVC washout pipe line in Gallawatta tower at Raddoluwa WSS, pipe laying at Veyangoda Mangalathiriya, fixing of bulk meters and air valves at Raddolugama WSS and fixing of bulk meters at Minuwangoda WSS were carried out under Rechargeable Savings.

Water Supply to Pahala Yagoda Area, Divulapitiya WSS, Treatment Plants, Transmission & Distribution System Improvements in RSC (W/N), Mirigama Water Supply Project - Stage I, are the projects which received PAC approval during the year.

Detailed Design was completed for Augmentation of Kirindiwala WSS and Ranpokunagama WSS. Detailed Design for Augmentation of Gampaha WSS & Augmentation of Divulapitiya WSS was partially completed. The RFP document for Mirigama water supply project – stage I has been prepared by P&D

section and issued for document evaluation purposes at the end of the year 2016. The problem in obtaining irrigation approval for extraction of water from Ma Oya due to low flow conditions & difficulty in progressing land acquisition for the projects due to non availability of funds are the major issues faced.

Rural Water Supply & Sanitation activities such as supply of centrifugal pump set and panel board for Thawalampitiya RWSS was completed & Construction of new borehole, 40 cu.m Ferro cement tank, control room, pipe laying and supply & installation pump & panel board at Meethirigala & Akaragama RWSS 85% completed. Supply of uPVC pipes and fittings for Hapanakanda RWSS 40% completed, Electricity supply from CEB, Pump repair, leak repair of the Tank at Nikahetikanda RWSS 20% completed. Funds have been received for Tharala, Kuttivila, Dangalla & Udugoda RWSS projects & work will be carried out in 2017. (Funds from Divisional Secretariats).

Cleaning of New Reservoir at Church Hill – Capacity 18000 cu.m was also carried out in the RSC (W/N) during the year 2016.

The total No. of connections in RSC (W/N) Region at the end of December 2016 was 256,312 including the 18,495 new connections provided during 2016.

Regular water sampling programme and line flushing programme were continued and water quality was maintained according to the WHO standard.

RSC (W/N) attended to clean the wells in flood affected areas. Establishment of Disaster Recovery Data Center in RSC (W/N) office is 95% completed.

Southern



Pipe laying at Baddegama Hikkaduwa High way access road

Many special events were taken place during the year 2016 in the RSC such as health programme, “Positive Thinking” awareness programme, renovation of hospital building – general hospital, get together, donation for flood victims in Colombo area, Cricket tournaments, residence for a poor family and some awareness programmes for the school children.

Relocating the water meters and sealing the defective meters, improvements to new connection practices,

NRW measurement with adequate accuracy, reduction of leakage, distribution improvements, ensuring the quality of materials used and disconnecting illegal connections were some of the NRW reduction activities carried out throughout the year.

Under energy saving activities projects such as supply and installation of 03 duct foot type submersible pumping sets, a floor mounted motor control panel having three VFDs to operate three duct foot pumps and other accessories at intake Kattakaduwa of Ranna Water Supply Scheme, supply and installation of end suction vertical delivery multi-stage centrifugal pumping sets & accessories for Angunukolapellasa Water Supply Scheme and supply and installation of switch mode capacitor banks for Galle region were completed. Other activities such as Supply and Installation of Capacitor Banks for Kadduwa, Uyanwatta and Isadeen Town Pump Houses to rectify poor power factor correction and supply and installation of Capacitor Banks for Water Supply Schemes which have poor power factor have already been implemented and to be completed.

Water Quality surveillance, water security activities and water safety plans were carried out in, Tangalle, Kirinda – Puhulwella, Matara group, and Pitigala WSS. Furthermore pipeline extensions were carried out for a total of 57 km which includes 21 km in Galle region, 8 km in Matara region and 28 km in Hambantota region.

As development activities in Galle region, repairing 03 filters, supplying of filter nozzles at Hapugala WTP, supplying of filter media under RH funds and laying distribution line for 21 km were done during the Year.

There were many development activities carried out in Matara region during the year. Nadugala WTP augmentation project was completed adding 2,500 – 3,000 cu.m /day additional capacity to the system and laying 3km of 225 mm dia. PVC distribution main from Nadugala WTP to Thudawa area. The raw water main at Kananke intake site was rearranged to improve the raw water capacity for Hallala WTP to get an additional capacity of 800 cu.m/d. Tube wells were developed at Karagoda Uyangoda, Thihagoda, Hakmana & Makandura WSS according to the annual programme to increase the yield and decrease the iron content of raw water quality. Construction of new deep tube well, pump house & security hut at Karagoda Uyangoda, Construction of new shallow bore holes at Thihagoda to improve the raw water capacity and laying of pipes from Amalagoda junction Dampella along Akuressa – Matara road to get 1000 cu.m/d from Akuressa WSS to Malimbada WSS were also carried out in the region.

Feasibility reports for Greater Galle WSS, Water supply to Nagoda WSS, Waduraba WSS, Deiyandara WSS, capacity improvement for Lunugamvehera Integrated WSS, Kirinda WSS & Buundala WSS was prepared.

Pitigala water quality report and PAC have been sent to CE(R&D) section to finalize treatment processes. Proposals for Neluwa, Galle MC area WSS, Imaduwa WSS and Water

supply to Karadeniya area have been submitted. A board paper is to be prepared for Yakkalamulla & Godadeniya Housing scheme. Greater Galle WSS stage III new estimate has been approved by PAC & proposal was sent to NPD for the approval. TEC to be updated & funding source to be finalized for the Augmentation of Urubokka WSS, Deniyaya WSS and Morawaka WSS. Middeniya Angunakolapellasa Integrated WSS, Weeraketiya Stage II WSS (Rehabilitation of Treatment plant, construction of intake and distribution improvements for the Muruthawela WSS), Barawakumbuka and Rote WSS, Kirama Katuwana Integrated WSS (using Kekirioboda Reservoir), Ruhunupura WSS Stage II (Preparation of feasibility report for construction of 17,500m³/day treatment plant at Rediyagama), quality & capacity improvement of Tissamaharama WSS are in feasibility stage.

There are many projects under design stage and they are Improvements of Galle Cluster water supply project (TEC Rs. 1,595 million), Improvement of Wakwella Treatment (TEC Rs. 1,265 million), Improvements of Hapugala water treatment plant (TEC Rs. 579 million), Improvements of Baddegama WSS (TEC Rs. 1,368 millions), Water supply to Hambanthota port premises (TEC Rs. 122 million), Implementation of Kadduwa intake (TEC Rs. 241 million), Improve the capacity of Hallala treatment plant in Weligama WSS (TEC Rs. 256 million), Construction of 500cu.m capacity treatment plant in Ellakanda WSS (TEC Rs. 433 million), Matara Stage IV water supply project (preparation of EIA report & Consultancy for study and design salinity barrier -TEC Rs. 20 million) & preparation of feasibility report (TEC Rs. 22,208 million), construction of 5,000 cu.m treatment plant & floting intake for Weeraketiya WSS (TEC Rs. 513 million), Implementation of Angunakolapellasa WSS (TEC Rs. 483 million), Replace of intake pump in Ranna WSS (TEC Rs. 358 million) and Preparation of proposal for quality & capacity improvement in Tissamaharama WSS (TEC Rs. 392 million).

Many NRW Reduction activities were carried out in the region during 2016. Akuressa WSS was selected as a pilot project and a team was appointed to carry out sound tracking for leaks & repairing them at the same time. Updating of mapping work in all WSS in Matara region was 100% completed. An action plan for implementing district metering area in each WSS was prepared. Flow measurement in raw water main & treated water main is 75 % completed. A level monitoring system was fixed in Matara Region. Checking zero bills and estimated bills were continued and respective disconnection programmes were carried out on a monthly basis. A leak detector and a pipe limne tracer were purchased to improve the NRW programme. Preventive maintenance work has been carried out. A night time leak survey was conducted at Malimbada, Weligama, Karagoda Uyangoda & Makandura WSS. An inspection was done for illegal connection in each scheme.

North Central

Special Events taken place in the RSC during the year 2016 are Awurudu Uthsawaya, Banaprogramme, Cultural society annual get together, cricket tournament with Vavuniya RSC, Annual trip to ampara etc.

Land acquisition was going on very smoothly, especially for the new projects of JICA phase II and Polonnaruwa East Town water supply project. Forty seven plots of lands already have been identified for the above projects. Other acquired lands are paid long term leases as schedule.

Greater Anuradhapura North & Trincomalee integrated water supply project and Pibidemu Polonnaruwa project received the PAC approval in 2016.

Under Rural Water Supply and Sanitation activities, RO Plants have been installed in 63 GND in North Central Province with the total cost of Rs. 175 million using the funds from Ministry of City Planning & Water Supply and North Central Provincial Council. Total assets represent Rs.9,977 million in the RSC (NC).

Laying of uPVC/DI pipes fittings, Specials and valves for gravity line from Kurundankulama Tower to sump at University was the only rechargeable work conducted under RSC (NC) and it has gained a physical progress of 25% by end of the year.

As Institutional Development Activities, several training programs/ workshops namely GIS Mapping (2 day training) for 47 participants, Nagoya water pipes line training with an attendance of 50, IMS training programme with an attendance of 50, "Jathika Paladaita Programme" for the RSC staff, Work shop on Human Resource Activities for 50 participants, a workshop on Internal Auditing for all the RSC and O&M staff of the region and training program on "PERSONAL GROOMING, SOCIAL & BUSINESS ETIQUETTE" with the attendance of 98 staff members were conducted in the RSC during the year.

There were 30 numbers of water supply schemes under operation in the North Central Province by end of 2016 providing water through 107,686 numbers of water supply connections. Number of connections given in the year 2016 alone is 8,772. Billing Target up to Nov. 2016 was Rs. 828,487,000.00 and achievement at the same was Rs. 1,002,485,000.00. Collection target up to Nov. 2016 was Rs. 876,288,000.00 and achievement at the same was Rs. 986,077,000.00.

Gallaalla treatment plant was awarded with 1st Place at the World Water Day Program – 2016. Laboratory facilities & Water Quality activities have been improved to obtain ISO-17025. Some water quality parameters are higher than the permissible level (eg. Alkalinity, Hardness, fluoride etc.), since all the schemes in Northern part of North Central province are supplied with ground water sources and surface water of Malwathu Oya. Due to inadequate yield in wells during drought period, it was unable to ensure 24hr supply in most of the water supply schemes. Water Safety Plan & Post Assessment of Water Safety Plan for Thuruwila WSS was completed. Water

Safety Plan Auditing with the collaboration of WHO for Thuruwila WSS was completed & Water Safety Plans for Gallella, Nuwarawewa, Ihalagama, Sacred City and Eppawala Schemes were being prepared and necessary training for the relevant staff was given within three consecutive days in Anuradhapura. Relevant staff for above task was identified and initial training was given. Basic physical, chemical and bacteriological quality analyses were done throughout the region including water quality analysis in lakes for heavy metal and algae at quarterly basis.

Productivity Improvement Activities such as improvements of laboratory, repairs of regional stores were carried out. Development of pumping capacity and treatment facilities at Anuradhapura North, Sacred City, Thambuttegama & Minneriya is in progress. NRW reduction of 18.4% was achieved during the year 2016, as a result of identifying 12,623 numbers of leaks & rectifying 12,623 out of that, identifying 6,190 number of defective meters and rectifying 6,156 out of that, correcting 2,907 numbers of estimated and 6,293 numbers of zero bills and acquiring 60 numbers of connections with arrears over Rs. 50,000.00 bills.

North Western

In year 2016 RSC (NW) hosted a special event to celebrate the triumphs in Productivity Awards 2014 in the region with the participation of Vice Chairmen, General Manager and Addl. General Managers. We have also conducted several training sessions for all staff members in various topics with the support of internal and external professional resource persons.

RDA/PRDA road clearance for pipe laying can be mentioned as major issue. With the development of road sector, most of the roads have been rehabilitated or overlaid with asphalt. So it is very hard to get RDA/PRDA permission for pipe laying. Another issue is payments for land acquisitions. Most of the times we do not have enough funds for land acquisition payments.

As general issues in treated water quality, total No. of 1026 water samples of 22 - WSSs in Kurunegala District was checked during 2016. Only 0.77% of tested samples were reported as bacteriologically unsafe and even that was corrected with proper measures. Among the 1026 samples of treated water, 23.19% of the samples were physically & chemically unsatisfactory. It was mainly due to the high colour & turbidity in treated water & some chemical issues like manganese. Among those 22 WSSs, only five Schemes having full treatment facility. Others are having partial & simple treatment facilities. Production capacities & the water quality improvement for Kurunegala, Giriulla, Wariyapola & Gokarella schemes were continued during 2016.

Water quality of surface water intakes was maintained as in the last year. Towards the end of the year, the water levels decreased due to the low rains received during the south west monsoon.

Water quality surveillance program of the Kurunegala District was carried out successfully as done in the year 2015. Total No. of 187 Bacteriological water samples collected by the PHIs in Kurunegala RDHS Division were checked free of charge by the Regional lab at Kurunegala and 17% of the samples were reported as contaminated. The results with recommendations for corrective actions were informed to the RDHS.

Five WSSs in NWR (namely Nikaweratiya, Wariyapola, Giriulla, Dankotuwa & Wennappuwa) were selected for the preparation of Water Safety Plans for 2016 & the same is planned to be completed within 2017.

PAC approval was obtained for Katupotha-Bamunakotuwa, Rasnayakapura Extension & Kalpitiya water supply projects. The total estimated costs are 18,906, 2,400 & 12,810.13 million Rupees, total water supplies are 1800,2500 & 9000 cu.m/d & the covered population are 134,000, 19,835 and 72,000 respectively.

In accordance with the O&M reports published by the Kurunegala region average NRW is 17% in Kurunegala district and 14% in Puttlam district. This is considered as relatively low percentage considering with the other regions.

Basic NRW indicators such as major leaks per km, minor and service leaks per km, commercial complains per 1000 connections, estimated bills per 1000 connections, meter reader error percentage were monitored throughout the year. Rs.30 million has been allocated to the region for NRW reduction programme by May 2016 and 30% of this fund was utilized to installation of zonal valves in the distribution system. Further, RSC (NW) has started to use PE pipes & fittings for providing house connections in year 2016 and as a result the number of illegal connections within the region has reduced.

In year 2016 we have carried out some Energy Saving Activities in the RSC. The project for supply and installation of low pumps and accessories for Hettipola water supply scheme for improving the pump capacity is at investigation stage. The project covering the replacement of high lift pump and accessories for WTP – 2 in Kurunegala water supply scheme for improving high lift pump capacity of the plant, is at installation stage. The two projects have been awarded for a cost of Rs. 2,587,090.00.

In accordance with the 2015 stock verification, Rs. 368 million of stock value was reported in RSC NW, which was a high amount considered with the number of connections. To reduce the stock value, a centralized stock database was established in digital form and this has reduced the purchasing main moving items saving allocated funds to the region.

Several sections of the NW region applied for the productivity awards 2015 competition and the RSC office, Ground Water office, Regional laboratory and Nikawaratiya Water Supply Scheme have been awarded with the commendable level.

New Pipeline extensions of 23 km for diameters varying from 63 mm to 280 mm were completed during the year and 500 new water connections were provided. Apart from that, there are some extensions in water supply schemes for O&M work were done in the North Western Region.

As rechargeable works in year 2016, Randenigama WSS (Rs. 6.5 million) and Agarawatta WSS (Rs. 4.5 million) and Sooriyaunya, Dummalasooriya Water supply scheme (Rs. 10.2 million) were done. Pipe shifting work cost of Rs. 98 million in A6 road alongside the rehabilitation work of the road was also done.

An amount of Rs. 45 million of Rehabilitation Budget was allocated for year 2016. Out of that, an internal distribution was carried out by regional level to monitor the awarded contracts closely. Budget Year 2015-allocation is 37 million, Expenditure is 35 million & Budget Year 2016 – allocation is 7.2 million and Expenditure is 5.3 million. Overall Expenditure is 90%. From the allocation, the region has completed new pump installation, building rehabilitation including stores and Improvements of TP and distribution network.

Rural water section in Kurunegala District has completed Supply & Installation of 3 Nos of 10cu.m/day capacity RO units for Pannawa, Hewanpallassa & Pahala Kiniyama CBOs – Rs 9 million and a Supply & Installation of 32 Nos of Rain Water Harvesting tanks for CKD Patients in Giribawa DSD. Activities for Ministry of Internal Affairs & Wayamba Development funds We Prepared Estimates for 52 Nos of RWS schemes as requested by internal affairs and Wayamba Development ministry & one scheme has been implemented (Ragedara Balahingama) – Rs 6.5 million.

As Other Activities, 03 RWS schemes namely Nelligala (Rs. 8.3million), Dadurunadegama (Rs. 9.1) million and Kotakanda (Rs. 5.9 million) have been completed under Deyata Kirula Funds and 42 Nos of Estimated were prepared as request by public & 04 Nos schemes have received funds and completed

O&M has successfully faced to the drought situation which hit the region in August/September -2016, with the dedication of all the staff. Details of the drought affected schemes were identified and special contingency plans such as deploying of bowser supplies and source improvement works were carried out to overcome the disaster situation. O&M staff coordinating with the local government bodies, supplied water to people who are not NWSDB consumers. Further, plans were prepared for construction of new production

wells, increasing the No. of bowser points and for cleaning/flushing of the hand pumped tube wells in order to face the upcoming disaster situation.

In Year 2016 O&M (NW) has improved in several ways. Mainly it has found solutions for burning issues such as lack of water in intakes. In Adigama and Dodangaslanda WSS new water sources were found and the constructions were completed. It allows us to expand the distribution network and number of connection in 2017. Further, O&M has provided around 4000 connections in year 2016 and it is an 80% achievement of the target. Considering the operational costs in O&M region, it was noted that O&M NW has achieved the planned targets in 2016 under personal, power, chemicals, repair and maintenance categories, which is a good achievement.

Central

At the commencement of year 2016 religious activities were held at RSC-Central as usual. Bodipooja pinkama in parallel to Esala perahera, medical camp, blood donation camp, the annual trip to Galle and the New year festival were the other main activities organized by the welfare society, with active participation of the staff.

The main event of the year was the Mobile Service held on 29.09.2016 & 30.09.2016 at Katugastota Water Treatment Plant premises and Regional Support Centre, Getambe respectively. Almost all the complains were addressed and forwarded for remedial actions. A new zonal office of Kundasale WSS was opened at Digana town. Local Bank Funded Laggala New Town Water Supply Project (WSP) and Wilgamuwa WSP were physically commenced during this year.

Under NRW reduction programme, leak surveillance activities such as night flow tests, step tests, domestic meter testing programmes using advanced equipment were carried out in the distribution zones & high NRW zones such as Rikillagaskada, Walapane, Pundaluoya WSSs & Eriyagama zone together with a special leak detection work at Dambulla WSP. Special investigation was done on "Kent" brand water meters which have been installed in year 2011 at Karuwawatta. Replacing & installing valves, bulk meters, pressure gauges, replacing bundle pipe lines were done in order to improve distribution zones. Bulk meters were calibrated considering tank water levels. NRW monitoring project and Billing using handy terminals to reduce human errors were done at Harispattuwa pilot project area in Kandy North region under Japanese grant.

Energy audits were carried out at Marassana and Kundasale WSSs. Palapathwala H/L pump installation, VSD installation at Elpitiya WTP, introducing a capacitor bank at Polgolla WTP, Matale intake pump replacement were completed in 2016 under the Energy fund. Replacing florescent lamps with LED bulbs, pumping water at off peak hours (at Balagolla), minimizing dual pumping & operating pumps within short intervals to reduce KVA within KE region were the other measures for energy

saving. Available stocks were utilized as far as possible minimizing new purchases in order to minimize stock levels.

Training programmes on Productivity, Advance bid evaluation, Water safety audit, Financial literacy, computers, Awareness programme for meter readers, Supplies and materials management, MS Access, Sinhala Unicode, Water GEMS, Safe driving, Protection from emergency fire were carried out during 2016. A training programme on PE welding for fitters was also carried out by Kandy East region.

Paradeka WTP won third place in National Productivity Competition in year 2016. RWS office won the best office award in World Water Day 2016. Ms. R.N.C. Rathnayake of Harispattuwa WSS won the gold medal for Shot-Putt, Discus and Javelin throw at the "National Services Sports meet-2016". Water Safety Plan (WSP) was successfully implemented in Meewathura, Greater Kandy and Paradeka WTPs. In addition, WSP were commenced at Nawalapitiya, Ukuwela – Udathenna, Pathadumabara, Rikillagaskada, Araththna and Hatton WSSs.

As a remedial action to overcome the CKDu problem in Wilgamuwa area, a package treatment plant was commissioned and 120 water tanks were distributed in 2016. Under RWS activities, awareness programmes on water meter repairing, adaption to climatic change & chlorination were held for CBO members & Pradeshiya Saba officers. Three exhibition stalls on water conservation were held within the region. 34 nr Estimates for new small rural water supply schemes were prepared at the request of CBOs and other organizations for a total value of Rs.Mn 115.6. Forty eight chlorinators and 18 water pumps were distributed to CBOs. Under the catchment protection program, 22 latrines at Muloya area and a bio gas plant at the cattle shed were constructed at Rikillagaskada WSS. Awareness programmes on proper sanitary habits and catchment protection were conducted for school children, technical officers and estate beneficiaries. Also, tree planting programs and displaying notice boards at places tend to critical pollution were carried out under this programme. Further, 170 Latrines were constructed under the SACOSAN activities at Ambagamuwa, Pasbage Korale and Hantana Estate.

Development of ground water sources at Udatenna & Medadumbara WSSs, rehabilitation of 40 hand pumps, drilling 20 wells, 23 flushing & well developing, 6 hand pump installation, 01 pumping test, Hand Pump Tube Well survey to fill data gaps (48 GPS coordinates), ground water quality monitoring and spring flow measurements (1 Nr) were carried out under the ground water activities within Central region.

Pipe line extensions for a total length of 85.5 km approximately, was carried out in Kandy South, Kandy North and Kandy East regions.

Improvements to intakes, treatment plants, transmission

and distribution lines and M&E works were carried out at Kundasale, Marassana, Thalawakele, Matale & Elpitiya WSSs under capital budget. However, due to non availability of fund allocation, no activities were carried out in Marassana Water Supply Scheme during the year 2016. Intake improvement at Matale, Paradeka & Nayapana intakes, rehabilitation of TP, installation of chlorinators and laying raw water transmission main at Pussellawa WSS were completed under rehabilitation funds within this year. Rehabilitation of Polgolla rapid sand filter, relaying transmission main to Mount temple, construction of valve chambers in Kandy South area are the other ongoing activities under rehabilitation funds.

There were earth slips at Nillambe at Doluwa WSS damaging transmission main. Severe water shortage issues occurred at Kundasale & Medadumbara WSSs due to drought, at Galagedara, Naula, Pujapitiya & Harispattuwa, Galhinna due to water level depletion at boreholes & wells, Water pollution at Polgolla Intake were the other issues. Kandy East region faced difficulties due to lack of resources such as no replacement for retirements, vehicles and crew, non availability of funds etc. Further, the foreign funded Kandy North Pathadumabara, Kundasale-Haragama, Greater Matale Water Supply Projects (WSP) could not be physically commenced due to non availability of funds.

Pipe break down due to earth slips was rectified with minimum interruption to water supply and bowser supply was provided to consumers during drought. Tree planting programs were organized for catchment protection.

Further, new project proposals were prepared for Nanuoya, Pundaluoya, Pupuressa- Atabage, Hapugasthalawa and Nawalapitiya Pallegama water supply projects in order to enhance the pipe water coverage within the central region.

Sabaragamuwa



Mawanella treatment plant

Many special events were taken place in the Kegalle and Ratnapura regions, and the RSC office of Sabaragamuwa. World Water Day, mobile services at several places, cricket tournament, and get together were some of the special events taken place.

Many NRW reduction activities such as distribution improvements, replacing of bundle pipes, changing the damaged valves, construction of new valve chambers,

pipe replacements, connection transferring were carried out in the RSC during 2016.

Several energy saving activities were also carried out such as replacing the old pumps with new pumps at Mawanella & Udawalawa water supply schemes, installation of capacitor bank for power factor correction at pump houses of kegalle region (total cost of projects were Rs.9.6 million) and all projects were fully completed by end of year 2016. The expected saving is Rs. 150,000.00 per month. Controlling of pumps and changing operational hours were taken place to save electricity consumption. Preventive maintenance for all pumps and other equipment related to the water supply schemes in Ratnapura and Kegalle regions were also carried out.

Productivity improvement activities were taken place in the regions and RSC office which included awareness programmes for basic productivity concepts and implementation of “5S” programmes in the regional offices. The “5S” competition was also commenced and in progress.

Implementation of Quality Management System (QMS) in the water treatment plants at Rathnapura and Kegalle regions were also commenced. This is to obtain the ISO 9001 -2008 certification for the treatment plants with a higher capacity than 10,000 cu.m/ day in the region.

Implementations of water safety plan in the regions were also commenced in 2015 and continue in 2016. The Eheliyagoda water supply scheme is the pilot project for this programme and catchment protection activities like organic farming, tree planting and providing sanitary facilities for people living in the catchment area were implemented under this programme. In addition, the catchment protection activities like demarcating reservation of the stream and providing sanitary facilities for people within the catchment area of Pelmadulla water supply scheme were also commenced. Total cost of the project is Rs 3.4million.

Sixteen training programmes related to the productivity, quality management system and plumber training as well as other awareness programmes were conducted in the RSC during 2016.

Accreditations for laboratories in the region were also commenced in the year 2015 and conducted in 2016.

During the year, technical assistance was provided for several Rural Water Supply schemes covering 21 RWS schemes in Kegalle region and 24 in Ratnapura region. Data collection and water quality testing from CBO schemes in the were some of the other activities carried out in the year. In addition, rural water section has provided the support to rehabilitation component of water supply and sanitation improvement project which has been implemented under World Bank funding.

Furthermore, the total pipeline extension carried out in the Rathnapura and Kegalle regions were 33 km and 44 km respectively. Also 6,625 new connections have been provided by the RSC during the year.

GIS mapping programme is going on in the Kegalle & Rathnapura regions and a GIS training programme was held from 27th to 29th of November 2016 at library hall, Rathnapura.

The total cost of the locally funded project for pipe line extensions in the two regions are Rs. 295 million. Overall progress of the programme is nearly 100 %.

Many rehabilitation activities were carried out in the Rathnapura and Kegalle regions during the year under the total allocation of Rs. 63 million, and physical progress of the program was about 80 % by end of the year.

Detailed design for implementation of Galigamuwa Water Supply Scheme which has been planned to provide water to about 48,450 people has been completed and bids were called from international contractors. The bid evaluation is in progress. Also for the Pambahinna water supply project which has been planned to provide water to 18,217 people, bid evaluation is completed. Bids were also called for implementation of Plant Design and Build contract for Greater Ruwanwella Water Supply Scheme under the funding of Export Import Bank of Korea and the bid evaluation is in progress.

During the year 2016, the NWSDDB had to face a huge challenge of providing water for nearly 2,000 families affected by the landslides and relocated due to vulnerability of landslides in Kegalle. This process has been continued as providing water to transitional centers and construction of new water schemes for resettlement of affected people. The expenditure incurred for those works is about Rs. 52 million.

Uva

Staff have already moved to new RSC Office building at Badulla in 1st November 2015. Open the Augmentation of Mahiyangana WSP was on 17/09/2016. Water quality problems also occurred in some schemes and remedial actions were taken to remove blocks at intakes, reducing turbidity, install chlorinators in small WSS. Catchment Protection Programs were carried out for Haputhala WSS, Badulla WSS and Diyathalawa WSS.

Energy saving activities were also carried out. Reducing electricity cost by adjusting to the tariff system, replacing of inefficient pumps and avoiding pumping during peak hours were some of the energy saving activities practiced during the year. In addition to reducing electricity cost, by implementing the preventive maintenance in all pumping stations the maintenance cost and the pump breakdown period has also been reduced.

Introduction of SCADA System to Buttala WSS, Augmentation of Mahiyangana water supply project and Badulla, Haliela Ella IWSP and Supply of bulk meters to measure NRW, Replacing old valves, Supply of leak detector, rectification of existing house connections, replacement of bundled pipes and relaying of old pipes were the NRW reduction activities conducted in the RSC.

Furthermore, training programmes were conducted including six technical programs, ten non-technical programs, two computer training programs, three CBO training programs and seven staff awareness programs.

Total of Rs. 118 million worth RWS projects have been formulated for Monaragala and Badulla districts for the year 2016 and those projects are ongoing. Those water supply projects are Bogoda, Sinnamaligatenna, Galauda, Ketawela, Pelgahatenna, Rahuppola, Rahangala, Rehabilitation of Kandana, Boragas, Construction of 9 dug wells, Pallewela Govindupura WSP (750 connections), Kiriibbanwewa Left WSP and Okkampitiya Water Supply Scheme.

Pipeline extension works were done for Girandurukotte Improvement, Rathkinda WSS, Extension of Agalaoya WSS, Wewatta WSS in Badulla and Kumarapura WSP in Monaragala.

PAC approval obtained for Attampitiya WSP, Taldena - Meegahakiula WSP & Bandarawela - Diyathalawa - Haputhale WSP during the year.

Following rechargeable works under Uma Oya project were also conducted during the year.

Makulella Water Supply Scheme- This project intends to provide water to 1500 connections in Makulella, Bambaragama, Ambadandegama and Egodagama areas. The total cost estimate is Rs. 221 million. The physical and financial progresses at the end of 2016 were about 55 % and 45% respectively.

Kurudugolla Water Supply Scheme- This project intends to provide water to 145 connections in Weheragalathanna area. The total cost estimate is Rs. 9.5 million. The physical and financial progresses at the end of 2016 were about 100% and 95% respectively.

Weheragalathenna Water Supply Scheme- This project intends to provide water to 650 connections in Egodagama, Weheragalathanna, Heeloya and Palleperuwa areas. The total cost estimate is Rs. 103 million. The physical and financial progresses at the end of 2016 were about 80% and 65% respectively.

Northern

The Deputy General Manager (DGM) heads the RSC-Northern with the support of one Assistant General Manager (North). Operation and Maintenance (O&M) activities are divided into two regions namely Regional Manager (Jaffna) and Regional Manager (Vauniya). Total population of the province is 1.23 million (Census in year 2015). Total connection maintain by NWSDDB is about 18,330 (up to 31, December-2016) and the pipe borne water supply overall coverage is 7.11% while Rural water supply coverage is about 1.13%.

The Regional Manager Jaffna covers three districts namely Jaffna, Killinochchi and Mullaithivu districts. There are 21 nos. of water supply schemes operated by RM Jaffna division. Under this region, NRW activities, distribution improvements, replacing damaged valves and Energy saving activities were carried out during the year 2016.

Total cost of these activities is about Rs6.73 million. Pipe line extension works were carried out in 10 nos of water supply schemes with total pipe line length of 35.20 km and expected connections is 219 nos. Total cost of these activities is about 133.00 million, funded by District secretariat in Jaffna and Northern Provincial council. The Jaffna Regional Laboratory is one of the leading water testing laboratories in RSC(North), working with high range of analytical capacity; we can perform most of the basic water quality parameters, especially the heavy metal analysis. In addition, a mini laboratory setup is established in Kilinochchi Treatment plant site to monitor the Kilinochchi treatment plant and extend the laboratory services to Kilinochchi and Mullaithivu districts. The 05 nos. Rural Water Supply Schemes under the region namely Mathagal and Shanthai in Jaffna district; Akkarayan, Vaddakkachchi and Iyakachchi in Kilinochchi district are being monitored by RWS unit Jaffna and operated and maintained by Community Based Organization of each schemes. Rural water supply unit under RM Jaffna implemented 22.70km pipe line extension with cost of Rs.59.70 million during the year 2016. Progress of the work is about 20% and balance work is ongoing. Bowser supply had been carried out to affected areas by oil contamination in Chunnakam and drought in Killinochchi town areas. Uduppiddy extension funded by local bank is almost completed. General issues in this region are such as water quality issues in Point Pedro WSS – Iron content, water quality Issues in Oddusuddan & Nedunkerny WSS - Moderate Fluoride Content. Oil Contamination in Chunnakam.

The Regional Manager Vavuniya covers Mannar and Vavuniya districts has increase its connection by 2263 nos in the year 2016, which is approximate 4.1% increase is the coverage of entire year. Further, it was extended supply of bowser water to a population of approximate 46,000 who are severely affected by drought in Mannar and Vavuniya districts the year 2016.

Four long term major proposal was originated by RSC-North during the year in 2016 to address the lack of potable pipe borne water supply coverage in this province. Greater Mannar Water Supply Scheme in Mannar district will cover 14% of provincial population with expected connections of about 35000 and; The TCE of Rs. 14, 818.65 million. Greater Vavuniya Water Supply Scheme is in Vavuniya district is proposed to cover 25% of provincial population with an expected connections of about 63,500.00 nos. TCE of the project is Rs.21, 602.98 million. we have initiated phase I of both Greater Mannar and Greater Vavuniya projects to cover Musali DS Division and part of Vavuniya south DS division respectively.

Welioya water Supply scheme in Mullaithivu district is

expected to increase 1.10% of the Provincial coverage and TCE is Rs.1867.00 million. Mankulam water supply scheme in Mullaithivu district will increase about 4.70% of the Province coverage and expected connections is about 17,500 nos for which the TCE is Rs.12,663.00 million.

The RWS section in Vavuniya region prepared a feasibility study at Madukarai wss in Mannar district for the amount of Rs.4.80 million. Under CKDu budget, Construction of 02 nos of wss were commenced in 2016 in Mullaithivu district and 800 families will get benefits from both of thees project. Further, 10 cu.m capacity of RO plants were installed among the villages and additional procurement were finalized to install 35 nos of RO plants distribute for the selected schools in Northern Province. Under CKDu, bowser water supply programme were carried out in villages, Bogaswewa at vavuniya, Musali in Mannar and Chunnakam in Jaffna. Ground water section in Vavuniya region carried out 131 nos of Investigations, 87 nos of drilling works, 22 nos of pump installations, 73 nos. of hand pump repairs and 74 nos of well flushing under RSC-North under Community Water Supply Program identified by Office of National Unity & Reconciliation and other rechargeable funds. Total work done is Rs.50.60 million and Income received was Rs.43.75 million by GW section.

Two Training programs were held in RSC-North Training center at vavuniya for the year 2016. Awareness of Regulatory Measures for Float Operated Valves was given to 45nos Participants from different stakeholders. Plumbers' awareness training was given for 40 nos. of participants.

Eastern

RSC(East) Headed by Deputy General Manager (DGM) and supported with two Assistant General Managers (AGMs), Executives & other staff. The O & M activities are managed by four Regional Managers namely; Trincomalee, Ampara, Batticaloa and Akkaraipattu. The main functions of RSC(East) are to facilitate the regional offices to carry out the day to day O&M activities, monitor the NRW reduction programme & increasing new connection toward increasing revenue.

The Special Events taken place during the year are opening Maha Oya WSS to serve 5000 families in Maha Oya DS Division, opening of augmented and rehabilitated Pottuvil wss, augmentation of Thalawattuwan pump house to increase the supply hours of Kalmunai & Maruthamunai water supply scheme, establishing OIC offices at Kanthale & Ampara and conducting mobile service at Ampara (174 out of 314 complaints received).

were immediately resolved). NPD recommendation for Valaichchenai Water Supply Project was obtained on 12.01.2016 for the TCE of Rs. 9.84 billion. Obtaining ISO standard for Vavunathivu water treatment plant is in progress.

There were many NRW reduction activities conducted during the year. The following activities are periodically carried out and monthly monitored at the regional levels

Changing 9059 defective meters, repairing 10997 leaks, 2 night leak surveys carried out in the for regions during the year. In Addison, 635 houses were inspected, disconnected and 19 houses were found as illegal. Further, 300 service connections were re- arranged as per NWSDDB regulations, six air valves & two bulk meters were replaced in Kondaveddwan WSS in Ampara region.

In Batticaloa region , it was noticed that the NRW increases after the taken over of Kallady RWS scheme by NWSDDB and 3.0 km distribution line was relayed with uPVC pipes under the LBF fund at the cost of 9.0 million.

In Trincomalee region, zoning arrangements, introducing district meter & section valves, rearrangement of service connections were commenced 2016 and in progress. Also, four flow meters and four bulk meters were installed, and 3.0 km bundle pipes were replaced with 63mm dia uPVC pipes.

As Energy Saving activities, the bulbs have been changed to LED & CFL in all regional offices and RSC office. In Thirukkivil WSS, the electricity traffic category of Sagama pump house has been changed from I₂ to I₁ saving Rs. 200,000.00 per each month and it was maintained one pump under operation. Energy auditing was carried out and the impeller was changed according to the pump curve.

In order to reduce stock levels at regional stores, unserviceable and nonmoving stock has been identified and reducing the stocks has been planned. Many asset management activities were also conducted during the year.

The capacity training for developing Water Safety Plan (WSP) was conducted for the relevant staff in all regions and RSC under WHO fund. WSP team appointed for identified schemes and target dates for submission of all five modules were fixed.

As RWS activities, In Trincomalee region three RO plants were installed under the John Keels & CKD fund at the total cost of Rs.7.50 million toward the benefit of 700 families. Also, around 22 No. of other RO plants were installed in hospitals, schools & villages by volunteers & other organizations in Trincomalee District. Trincomalee RWS unit organized a training programme on operation

and maintenance of RO plants for 32 CBO representatives and school children & teachers. In Ampara region, 132 nos. 1000 l water tanks were placed and supply water through bowser is being in progress until the ongoing RWS schemes will be completed.

Under the pipe line extension programme, 11.65 Km uPVC pipe extensions to Irrakkamam were carried out in Kinniya. In Trincomalee, 13.5km & 29.5km uPVC pipe line extensions in Kinniya, Verugal and Thampalgamam areas were carried out under the rechargeable & 560 million fund of Ministry of City Planning & Water Supply respectively.

In Batticaloa region , 13.87 km of pipe line extension was carried out to Arayampathy, Irruthayapuram, Chenkallady & Mandoor areas.

Progress of Capital Budget

Under small and Medium/ Utility shifting projects, Kantale (Agbopura) Water Supply Project and Wan Ela WSS were in progress during the year. Pipe line extension of 7.0 km to Iruthayapuram, Chenkallady & Eravur area was completed at the cost of Rs. 12.0 million.

As water supply projects in CKD areas, Sooriyapookana Pusallwinna RWS Scheme (500 target families in Sooriyapokuna & Pussalavinna GN Divisions in Dehiattakandiya) was 90 % completed by end of 2016. Sandunpura, Lihiniyagama and Mawanawela WSS (target population 3000 families) were taken over by NWSDDB from CBOs and rehabilitated at the cost of Rs. 33.0 million by introducing treatment units & pipe line extensions. Construction of Henanigala RWSS (1000 target families at Henanigala South GN Division in Dehiattakandiya) was commenced in 2016 at the cost of Rs. 63.0 million and 40 % of the work have been completed. Backmeegama RWS Scheme 475 target families at Backmeegama & Madawachchiya GN divisions in Gomarankadawela are completed and pump to be installed.

Under the Local Bank fund programme, 105 km distribution pipe line extension in Batticaloa, Trincomalee district), the construction of tower & treatment unit, laying of transmission & distribution line Batticaloa district was commenced in year 2015 at the cost of Rs. 199.0 million. All the material were supplied and 80% of laying work completed. In Trincomalee region, 160.0km uPVC pipe line extension with 750 cu.m tower construction works were commenced in year 2014 at the total cost of 539.0 million to provide 6,400 new service connections in Serunuwara and Neelapola areas.

79.0 km pipe line extension and 50 % of tower construction works were completed and expects to be completed the balance work before 31.03.2017.

Under Disaster Risk reduction activities, Bowser supply was arranged to supply water to the draught affected areas in Trincomalee, Batticaloa & Ampara districts areas. During the year, 31,581 new connections were provided, 80 tenders worth of Rs. 273.08 million were handled and 56 were awarded. Total billing, collection, income and expenditure of RSC (East) in the year 2016 were Rs. 1,387.19 million, Rs. 1257.07 million, Rs. 1700.98 million and Rs. 1763.43 million respectively.

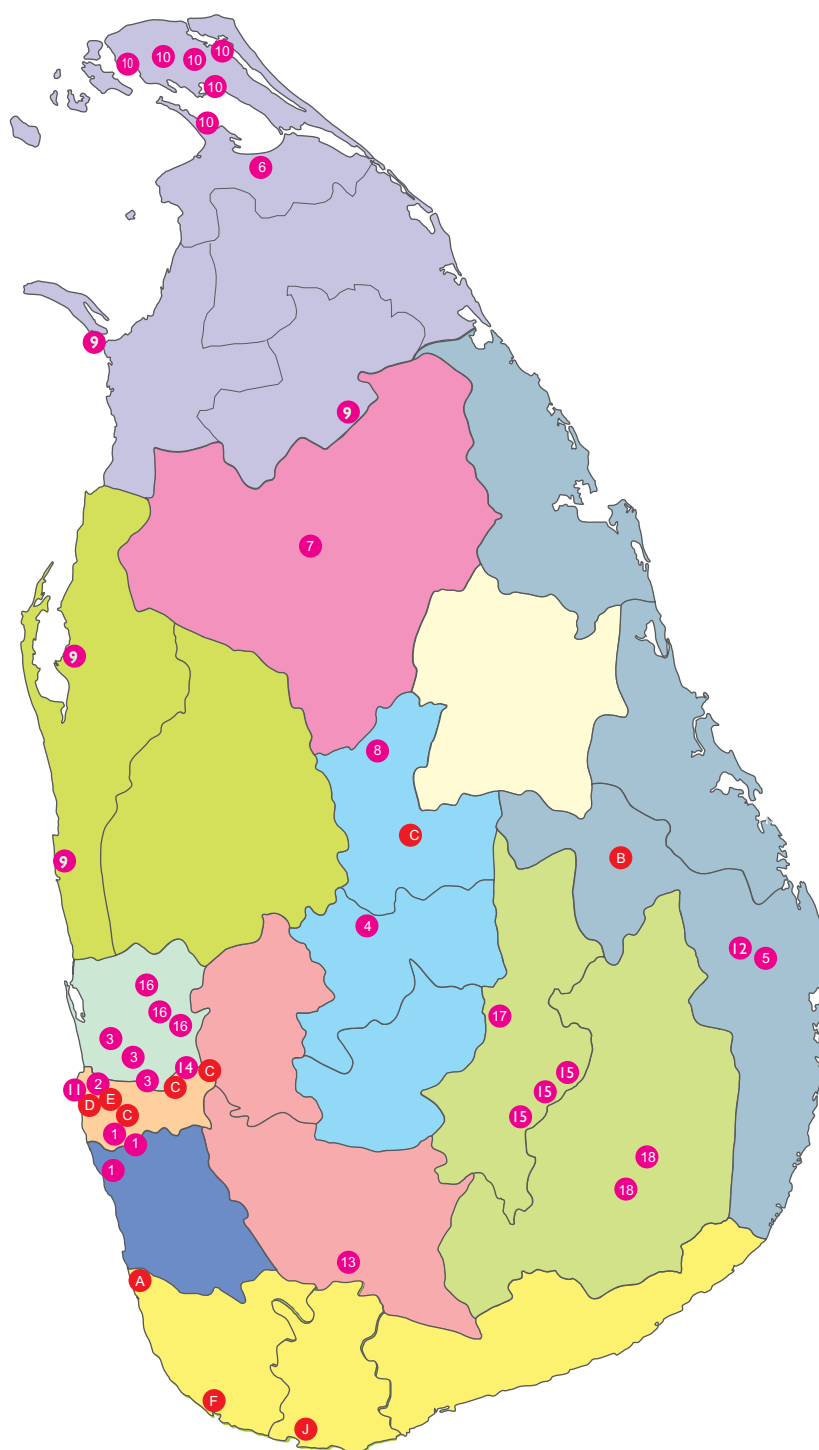
The RSC also happened to face several issues during the year. In the Pulmoddai small town water supply scheme it was unable to get the required quantity and quality of water from the two dug wells to cater the demand. Temporarily, water was drawn from Andankulam minor irrigation scheme.

The Muthur water supply scheme was designed to produce 8,500 cu.m/d of water. Present demand is 3000cum/d. However, during dry season only 1900 cu.m/d is produced due to the reduction of inflow capacity to the intake of Neelapola.

In Thirkkovil water supply scheme, there is a limitation in extraction of water from the Sagamam Irrigation tank during dry season due to the demand of farmers.

Ongoing Foreign/ Local Bank Funded Water Supply Projects

Accomplishments of Major Water Supply Projects under the Ministry of City Planning & Water Supply,
Location Map of Foreign-funded/ Local Bank Funded Projects under Construction/ Augmentation during 2016



Foreign Funded Projects

Project Name	Funding Agency
1 Kalu Ganga WSP - Phase I, Stage II	JICA
2 Greater Colombo Water Rehabilitation	JICA
3 Towns North of Colombo WS - Stage II	JICA
4 Greater Kandy WSP - Phase I, Stage II	JICA
5 Eastern Province Water Supply Development	JICA
6 Rehabilitation of Kilinochchi WS	JICA
7 Anuradhapura North WS	JICA
8 Greater Dambulla WS - Stage I	India
9 Dry Zone Urban Water & Sanitation	ADB
10 Jaffna - Kilinochchi WS & Sanitation	ADB
11 Greater Colombo Water & Wastewater Management Improvement Investment	ADB
12 Integrated WSS for the Unserved area of Ampara District Phase III	ADB
13 Kolonna /Balangoda WSP	Belgium
14 Labugama Kalatuwawa WTP	Hungary
15 Badulla, Haliela & Ella WS	US Exim Bank
16 Gampaha, Attanagalla & Minuwangoda WS	China
17 Augmentation of Mahiyanganaya WSP	Austria
18 Monaragala Buttala Intergrated WSP	KBC Belgium

Local Bank Funded Projects

A Bentota WSP
B Ampara Distribution Network WSP
C Ruhunupura Distribution WSP
D Colombo Water Supply Improvement Project
E Towns East of Colombo District WSP - Package I
F Galle Cluster WSP
G Avissawella & Kosgama Integrated WSP
H Galagedara / Mawathagama WSP
I Laggala New Town WSP
J Weligama WSP

FOREIGN FUNDED WATER SUPPLY PROJECTS

Projects undertaken with JICA Assistance

1. *Kalu Ganga Water Supply Project Phase I Stage II and Non-Revenue Water Reduction in Greater Colombo Area*



1000/ 800 DI Transmission Main from Bandaragama to Piliyandala (Package 2)

The objective of this project is to provide safe drinking water in the Southern part of the Greater Colombo area. A total of 300,000 people (60,000 families) living in Kesbewa, Piliyandala, Boralesgamuwa, Madapatha, Polgasowita, Kindelpitiya, Kahathuduwa, Kiriwaththuduwa, gonapola, Kumbuka, Panadura, Kiriberiya, Niwdawa, Hirana and surrounding areas will benefit from this project and improve the living environment in CBI area of Greater Colombo namely Pettah, Hultsdorf, Kotahena, Maradana and Slave Island area by reducing non-revenue water in CBI area in Colombo city.

The project was implemented with the assistance of ODA loan provided by JICA amounting JPY 8388.0 million and GOSL component amounting LKR 2458.0 million. The water source is Kalu Ganga River. The construction works commenced in September 2009 and Successfully completed all physical works of the original scope of work and additional scope implemented under loan savings in July 2016.

The original scope of work included construction of water treatment plant extension at Kandana (Horana) having capacity 60,000 cu.m/day, 1,000/8,000 mm dia. 14.7 km long DI Transmission Main from Bandaragama to Piliyandala and 450/400 mm dia. 67 km long secondary mains to Kesbewa, Jamburaliya and Kumbuka water towers, construction of three elevated water towers at Kesbewa (1,500 cu.m capacity), Jamburaliya and Kumbuka (1,000 cu.m capacity each), 250 km long new distribution pipe lines from Panadura, Kiriberiya, Kesbewa East/West area and reduction of non-revenue water in Colombo CBI area by replacing existing CI distribution pipe lines to a total length of about 48.7 km.

In addition to the original works, the following constructions and supplies are implemented under the available savings of the JICA ODA loan. Rehabilitation and implementation of secondary distribution system in Slave Island area in Colombo (about 25 km length), construction of 1000 cu.m capacity elevated water tower at Welmilla, laying of 212 km long distribution mains in extended and uncovered area under original scope of work, Construction of four storied office building for RSC(W-S), construction of office building for Area Engineer (Piliyandala), OIC's office and Quarters in Kumbuka and Supply of tools, machinery, equipment and computers for the operation and maintenance works.

The newly constructed water Treatment Plant, Transmission and Distribution pipe lines, four water towers at Kesbewa, Jamburaliya, Kumbuka and Welmilla were commissioned and handed over to the relevant O&M Divisions of NWS&DB for use. Construction of office buildings have been completed and handed over to the relevant RSC, AE and OIC offices.

Final payments of all contract packages have already been settled except Contract Package 8A (i.e. NRW 56.6 km pipe replacement in Colombo CBI area) until finalizing the Contractor's claims.

The overall physical and financial progress as at end of December 2016 is 100.00% and 99.98% respectively.

2. *Greater Colombo Water Rehabilitation Project*



Maligakanda Reservoir

This rehabilitation project is intended to upgrade the service level of safe drinking water supply in Colombo area. This is one of the major projects planned with a view for achieving the Millennium Development Goals among many such capital projects. This project is a step forward to the NWSDB's long term strategy for the Non Revenue Water Reduction Programme in Greater Colombo area. Total cost estimate is Rs. 4,785 million and the project is funded by JICA. It was planned to rehabilitate and enhance the water supply systems of CMC and Kotikawatta – Mulleriyawa area. The Date of Commencement was 27th November 2007 and the planned date of Completion is 28th February 2017. The number of beneficiaries is 125,000 in year 2012.

The project comprises of,

- i) Maligakanda Reservoir - To improve the water system in Colombo Central area increasing the storage capacity for future and contingency situations.
- ii) Elie House Reservoir - To improve the water system in Colombo North area Increasing the storage capacity for future and contingency situations.
- iii) Gotatuwa Water Tower - To improve the water system in Kotikawatta Mulleriyawa area.
- iv) Increase the transmission capacity from Ambatale to Gothatuwa (IDH).
- v) Reduce Non-Revenue Water, minimize illegal water connections, and improve hygienic and living standards of Low Income population in Dematagoda area.
- vi) To improve Office facilities to CMC sewerage staff/ NWSDB water works staff.

Budgeted Programme has been achieved and the work in progress up to date except at Maligakanda valve house site where certain issues and delays encountered with CMC. Transmission main, distribution network in Kotikawatta Mulleriyawa area, Water Tower at Gothatuwa, Ambathale M & E works and NRW are successfully completed. Ellie House and Maligakanda reservoirs were completed and handed over and Maligakanda valve house construction is completed, pending connection to existing distribution system. Acquisition and clearance of CMC land was delayed construction of Maligakanda Valve House. Close monitoring of all project activities are being carried out with frequent meetings with Project staff and Contractor to improve the quality of work. Overall physical and financial progress of the project as at the end of 2016 were 97.78% and 108.86% respectively

3. Towns North of Colombo Water Supply Project Stage II



Kandana Pump House

Town North of Colombo Water Supply Project is intended to serve the population of 600,000 in the year

2020 with safe drinking water and the water demand projection is about 180,000 cu.m. per day. Project implemented with assistance of the ODA loan provided by JBIC (SL-P90) and estimated cost was Rs. 6,500 million. Original Scope was completed in year 2012 and additional works also completed.

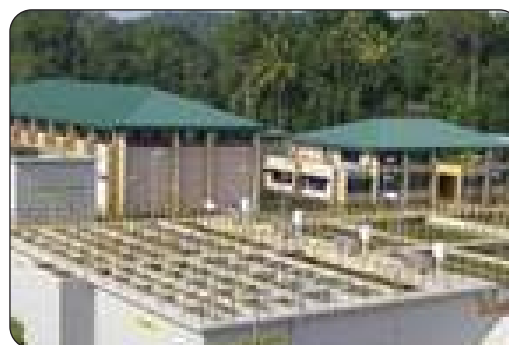
Stage II of the project was included distribution systems covering areas of Mahara, Biyagama, Ganemulla, Ragama, Welisara, Muthurajawela, Pamunugama, Kandana, Ja-Ela and Ekala including two ground reservoirs at Ekala and Kandana, an elevated balancing reservoir at Delgoda and Regional Support Centre at Kadawatha. Construction of several office buildings to accommodate consumer service units of the NWSDB have also implemented.

Civil works under original scope was completed and handed over to O & M division for providing new connections. Additional resources and pipes also were supplied to O&M for infilling lines. Supply & Installation of Mechanical & Electrical works & commissioning are completed & handed over to O&M. Supply & laying PVC pipes for AC pipe lines in Kelaniya & Wattala areas are also completed and handed over to O & M division.

Under additional works utilizing savings, supply & replacement of defective valves / installation of new valves in project area, construction of Area Engineer's Office at Kelaniya, valve supply and laying of DI & PVC pipes in Kotugoda area and supply of PVC pipes for Rathupaswela are completed. Construction of 1000 cu.m. capacity reservoir & pump house augmentation of Water Supply Systems of Bandaranayake International Air port and BOI Katunayake using additional Funds were commenced in May 2015 and the work is completed.

IT equipment's, machinery, vehicles, on line training software, additional resources and materials were provided to O&M division under productivity improvement activities. All the work in original scope as well as the additional works on the savings were completed in 2016.

4. Greater Kandy Water Supply Project Phase I Stage II



Greater Kandy Water Supply Project

Greater Kandy Water Supply Project was formulated in 1997. Preparation of master plan, detailed design as well as project implementation under Phase I Stage I, Phase I Stage II and balance work of Stage II were carried out with JICA funding assistance. Accordingly, Phase I Stage I was commenced in 2003 and completed in October, 2006. In Phase I Stage I, intake, water treatment plant, 4 service reservoirs, 3 pump houses, 25km long transmission lines and 15km long distribution lines were constructed and it was benefited to population of 281,000 in and around Kandy City. Cost of this Phase I Stage I works is 3,679 Yen million plus 1,086 Rs. million.

In 2007, second stage of Phase I was implemented as eight packages under JICA funds. This scope included construction of 8 service reservoirs, 3 pump houses, 19km long transmission lines, 78km long distribution lines, backwash recovery facility, 12 staff quarters and construction of water fitting testing laboratory etc. This was benefitted for people in Akurana, Pujapitiya, Harispattuwa and Thumpane and Gangawata Korale Pradeshiya Saba areas. In year 2011 and 2013, some additional contract packages have been implemented under savings of same JICA loan and accordingly, NWS&DB is able to improve the water supply facility in Medawela, Rajapihilla & Kopiwatta areas and Non Revenue Water prevention activities as well. Total cost of this Phase I Stage II works is 4,634 Yen million plus 1,122 Rs million and benefited population is 269,300.

As institutional development activities, printing and distribution of book on “Surekimu Sema Jala Binduwakma Apa Panamen” to schools island wide, launching float operated valve regulation as a pilot project (relevant gazette No. 1953/27 was published on 11/02/2016 and Parliament approval for gazette was received on 21st July, 2016 and gazette will be effective from 01/01/2017), conducting awareness programs for hardware at Water Treatment Plant, conducting manufacturer awareness programme for manufactures importers on float operated valves, conducting awareness program for higher authorities, conducting awareness programs for schoolchildren and teachers and establishing water conservation clubs in schools island wide were implemented during the year 2016.

In addition, GKWSP assist to formulate Kandy North - Pathadumbura Integrated Water Supply Project to cover the unserved area of the GKWSP Phase II and Phase III, was able to introduce a sample bid document (Design Built) for the water sector to guide to achieve procurement objective and introduced “Recommended List for Manufactures With County of Origin” to minimise the contractor's risk and for obtaining quality goods and service packages for NWSDB.

NRW preventive and corrective strategies were also proposed to NWSDB through consultation workshops and some of the strategies were implemented by implementing a pilot project under 5000 house connection programme. sample bid documents were introduced to procure quality goods for house connection. Endurance test apparatus were introduced for water fitting testing laboratory as outcome of Stage II of GKWSP to determine the quality parameters. Overall Financial and physical Progress as at end of December 2016 was 99.9% and 100% respectively.

5. Eastern Province Water Supply Development Project

This project is to serve about 209,270 people in Ampara District. The major part of the project area will be served from the existing production from treatment plants at Dehiattakandiya and Kondawatuwana where the respective raw water Sources are Mahawali River and Konduwattuwana Reservoir. The new Maha Oya WSS which serves Maha Oya DS Division area has Rambaken Oya reservoir as its raw water source. The total cost of the project is Rs. 6,526 million. The Project components according to priority order are transmission main from Kondawattuwana to Kalmunai, the distribution systems including storage Reservoirs with pump houses of Pothuvil, Sammanthurai, Irrakkamam, Deegawapiya, Uhana, Damana, Hingurana, Maha Oya WSS with 6,500 cu.m capacity WTP, water towers, ground sumps, pump houses and augmentation of Dehiyathakandiya WTP.

Further, two new work packages are implemented to cover Panama area and Konespuram area with the concurrence of JICA by using the savings identified in the project in order to contribute for the project objective by increasing water supply coverage over and above the original scope.

All the components of the project are commissioned, in operation and generating revenue except the Dehiaththandiya intake pumps.

Due to high competition in the bidding process, the contract prices of different contract packages were also very competitive. The 6500 cu.m/d capacity Maha Oya WSS could be completed at a total cost of Rs. 1000 million during the period 2012-2015 due to such competition, as well as proper contract packaging and LCB process.

6. Rehabilitation of Kilinochchi Water Supply Project

Kilinochchi WSS was identified for rehabilitation immediately after the conflict was controlled. Rehabilitation of the scheme was carried out with JICA grant and GOSL funds. The project implementation was commenced in March, 2011 and completed in year October 2016.

Capacity of the treatment plant is 3,800 cu.m and target population to be served is 40,000 in Kilinochchi and Paranthan area. Two elevated towers (having capacity of 1000 cu.m & 400 cu.m), roughing filters, washed sand storage yard, washed water pond, Supply & Installation of new pumps & equipment, 8 km transmission main and 49 km distribution main, panel room cum generator room are the components newly constructed under the project. Existing civil structures of the water treatment plant and intake were rehabilitated. The project is implemented under JICA grants and TCE of the project is Rs. 1940 million.

Under stage I, Kilinochchi town, Kanagapuram, Thirunagar South & Kaneshapuram GNDs and under the stage II, Bharathipuram, Malayalapuram, Vivekananthanagar, Ananthapuram, Thondamanagar & Thirunagar North GNDs are covered.

The physical target of the main contract was achieved and commissioning & handing over of the same were completed. The overall physical progress of phase I of the project by end of 2016 was 92.6%. House connection activities have been commenced under Phase I. Contract for additional 35 km laying contract was awarded under Phase 2 of the project and a physical progress of 20.6% has been achieved. The overall financial progress of the project was 77.36% by end of December 2016.

Training programs on operation of water treatment plant, maintenance of mechanical & electrical facilities, monitoring & control of water quality, installation of house connection & water meter and maintenance of distribution network were conducted by NJS Consultants.



Intake Pit

7. Anuradhapura North Water Supply Project (Phase I)

The scope of this project is to provide safe drinking water a population of around 115,600 (in 2034) by constructing a water supply system in Medawachchiya and Rambewa Divisional Secretary Divisions in Anuradhapura District covering 75 GNDs (In addition to this 02 GNDs in Mihinthale DSD also covered by the project) where the people depend on unsafe ground water which causes

dental and skeletal fluorosis and highly tend to have chronic kidney diseases of unknown etiology (CKDu).

The donor agency of the project is JICA and the initial project cost is JPY 5,166 million and Rs. 2,786 million. The loan was effective from 5th July 2013 and the consultancy contact was commenced on 15th July 2014.

The project components are 19,800 cu.m/ day capacity intake at Mahakanadurawa Tank, treatment plant of capacity 9,400 cu.m/ day, 89 km HDPE Transmission mains, 163 km HDPE Distribution mains, 330 km of PVC Distribution system, 4 Elevated Tanks and 3 Ground Sumps and M&E works.

Consultancy contract for Anuradhapura North Water Supply Project Phase I was awarded in 2014 and the detail designs and preparation of contract documents for all Contract Packages are completed.

Bidding Documents for Lot A contract package (Construction of Intake facility, water treatment plant, water storage structures, mechanical, electrical and building works) were issued to PQ bidders on 04th October 2016, scheduled to be closed on 03rd January 2017 & extended up to 31st January 2017.

JICA Concurrence for the Lot B contract package (supply & laying of transmission, transmission sub mains & distribution mains) was received on 27.10.2016 for bid evaluation. Draft Cabinet Paper was prepared and sent to the director procurement. Letter of intension was sent to unsuccessful bidders. An appeal has been made by the second lowest bidder to the Procurement Appeal Board and actions are being taken for the same by the Director Procurement.

The Lot C-1 (Laying of uPVC pipes, fittings and specials and supply & laying of DI & GI pipes, fittings and specials in Issinbessagala distribution zone) Contract was awarded and 4.1 km of pipe length has been laid up to end of December 2016.

The Lot C-2 (Supply & delivery of uPVC pipes, fittings and specials) contract was awarded and delivery of pipes, fittings and accessories in progress with 99% completion.

The Lot C-3 (Laying of uPVC pipes, fittings and specials and supply & laying of DI, GI pipes, fittings and specials for East Rambewa, Ethakada and Rambewa distribution zones) contract was awarded for an amount of Rs. 218,130,094.00 plus provisional sum Rs. 89,985,000.00 plus contingency provision Rs. 30,811,509.40 and 2.6 km of pipe length has been laid up to end of December 2016.

The Lot D-2 Contract Package (Purchasing of browsers, cabs, mini backhoe, motor cycles) was completed in 2014.

Overall physical and financial progress of the project as at the end of 2016 was 26.95% and 5.77% respectively.

Delaying of awarding Lot B contract package was due to an appeal made by the second lowest bidder and actions are being taken for the same by the Director Procurement.

Delaying of awarding Lot A contract package was due to the short comings of Bidding Document submitted by the consultant. The SCAPC meeting held on 17.03.2016 for the document evaluation, requested the consultant to submit a report on TEC comments and it lead to nearly 03 months delay in approval of bidding document by the SCAPC.

Projects undertaken with Indian assistance

8. Greater Dambulla Water Supply Project - Stage I



Greater Dambulla

The Greater Dambulla WSP– Stage I is a design and build contract and was commenced in March, 2012. It is funded by Exim Bank of India and People's bank of Sri Lanka. Total project cost is US\$77.8 million.

The objective of this project is to implement the water supply scheme to cover Dambulla development area. The beneficiaries will be 174,100 people living in Dambulla, Galewela, Kekirawa, Palagala, Palugaswewa and surrounding areas.

The project components are 65,000 cu.m /day capacity intake, 32,000 cu.m/day capacity fully automated water treatment plant with 2,500 cu.m clear water tank including secondary pumping station and ground reservoir with a capacity of 1350 cu.m and other 5 Ground reservoirs and 2 Elevated towers for a total capacity of 5500 cu.m., 0.7 km long DI raw water transmission main of 900 mm dia., 71.5 km long DI transmission mains of 450mm to 250mm dia., 218 km long distribution mains of 280 mm to 63 mm dia. uPVC pipes and operational buildings (an OIC office building, 01 maintenance office, staff quarter and 03 operator quarters).

The construction of raw water intake & pumping station, water treatment plant and secondary pumping station are in pre commissioning stages while the towers, reservoirs, transmission network and distribution

network are in progress.

Overall physical and financial progress of the project as at the end of 2016 was 82 % and 83 % respectively.

Projects undertaken with Asian Development Bank Assistance

09.Dry Zone Urban Water and Sanitation Project (DZUWSP), ADB 5th Project

NWSDB is implementing the DZUWSP for water supply and sanitation improvements in North Western and Northern Provinces. Under this project Vavuniya, Mannar, Chilaw and Puttalam towns are to be provided with enhanced water supply and sanitation facilities. The total cost estimate of the project is Rs. 20,742.91 million. The overall physical and financial progress at the end of December 2016 is 85.81% and 65.01% respectively. Twenty-seven contracts in 2014, 08 contracts in 2015 and 02 contracts in 2016 have been awarded under this project

Vavuniya:

In Vavuniya, the project will provide a water treatment plant of capacity 12,000 cu.m/day of which the physical progress was 92% by end of 2016. In the treatment plant contract, all the civil work has been completed and mechanical and electrical installation is in progress. Construction of an impounding reservoir with a capacity of 3.83 MCM across the Peru Aru stream including causeway construction is at completion stage. Both the surface water and ground water will be combined to provide 9,800 cu.m/ day of treated water to 15,950 families in 2017. The major elements consist of 3 new water towers, a reservoir and 225 km of distribution pipelines are at completion stage and out of that, about 20 km distribution line and 22 km transmission main are still to be done. There is a sanitation component to provide four public latrines, improvement of existing septage plant with the inflow capacity of 28 cu.m/day and 500 house hold toilets in Vavuniya which is almost completed. Total number of beneficiaries is 109,432.

Mannar:

Mannar improvements include developing 10 bore holes to provide 12,000 cu.m/ day treated water to Mannar Murulakan, Vankali & Thiruketheeswaram. One new tower and two groundwater reservoirs are being constructed with 27.6 km transmission and 105 km distribution line system to provide fully treated water to a designed population of 6,672 families in year 2017. Four public latrines and 330 house hold toilets are at the construction stage. Almost all the work has been completed.

Contracts for septage treatment facility, water storage structures, public toilets and supply and laying of DI, HDPE and PVC pipes for distribution system were

awarded. Septage treatment facilities, public toilets and pipe laying are completed. The civil construction and installation of M&E equipment for water storage structures were completed in December 2016. Total number of beneficiaries is 55,033.

Chilaw:

In Chilaw, water will be extracted from Deduru Oya and it is expected to provide 12,000 cu.m/day of treated water to a design population of 93,165. The major elements of the scheme will consist of 12,000 cu.m/day water treatment plant in Bingiriya (Physical progress 74%), 2 reservoirs, 49 km of transmission lines and 153 km of distribution lines out of which 46 km of transmission main and 76.3 km of distribution line has been completed. Under the sanitation sector, five public latrines and 500 household toilets are being constructed. Septage treatment facility and most of the pipe laying contracts are completed. The construction of the intake and WTP are in progress of 62%.

Puttalam:

Puttalam WSS includes a 12,000 cu.m./day intake and water will be extracted from Kala Oya. The population to be served is 160,655. The proposed scheme will consist of 2 reservoirs, 7 pumping stations, 46 km transmission system from Eluwankulama to Puttalam and 12,000 cu.m/day water treatment plant. The sanitation component will include the construction of six public latrines and 500 house hold toilets in Puttalam town and suburbs. The septage treatment facility and the public toilets were completed. The pipe laying contracts are in progress (physical progress 80%). The construction of the intake and the WTP at Eluwankulam are progressing behind schedule (Financial progress 62% and Physical progress 74% respectively).



Spillway Structure NeroPer-Aru Dam construction in Yavuniya

10. Jaffna Killinochchi Water Supply & Sanitation Project (ADB 6th Project)

Jaffna Killinochchi Water Supply and Sanitation Project (JKWSSP) was started in year 2011 with the objectives of improving health and living standards of the people in

Jaffna peninsula and to support the resettlement in entire Northern Province. The project will provide safe drinking water to 300,000 people in water scarcity areas of Jaffna and Kilinochchi districts. The Total Cost Estimate is of US\$ 164.04 Million (USD 90 Million from ADB, AFD France Euro 40 million and GOSL USD 34.04 Million) and this is funded by Asian Development Bank and Agence Française Développement (AFD). Total Rs. 35,900 million (note: Additional Financing Loan signing will be done in Oct 2017). The duration of the Project is February 2011 – August 2017 (but expected completion date is January 2020).

The project Components are Improving Water Supply and Sanitation Infrastructure – Water supply for 300,000 and sanitation for 80,000 people, Strengthening Jaffna Water Resource Management (JWRM) and Building Capacity of the NWSDB to carry out Project Implementation and Build a Regional Office in Jaffna.

Due to the major changes of the project scope, restructuring with inclusion of a desalination plant of 24,000 cu.m/day and dropping of the AFD co financed (\$40 million) water treatment plant and bulk water transmission linked to Iranamadu tank; water source, excluding the sewerage component, Provision for household drinking water connections and optimization of the water distribution systems and strengthening of the water resource management and outreach activities is agreed.

The Total Revised Project Cost Estimate is of US\$ 274.04 Million (Additional financing USD 120 million from ADB and GOSL USD 30 million).

Out of the major packages under this project, two packages including Assistant General Manager office and quarters are completed. Five packages including two elevated towers, two transmission mains and one distribution package are ongoing. Another two packages for a distribution system and a elevated tower are at advertising stage, Jaffna city area distribution system and M&E SCADA are at documentation stage and the package for O&M vehicles and equipment is at conceptual stage.

The general issues are Loan signing for Additional Financing (USD 120 million) of water supply component to be expedited with ADB and Seeking Cabinet approval for the Project Engineering Institutional Consultancy (PEIC) variation.

Overall financial & physical progresses of the project as at end 2016 (based on the revised program) was 17% & 38% respectively.



Water Tower at Velanai

11. Greater Colombo Water and Wastewater Management Improvement Investment Programme (GCWWMIIIP)

Colombo was one of the few Asian cities to receive piped water supply in the 1800's. Many parts of distribution network have been built over 100 years ago. Although, there have been many projects to address increasing water demand, there was no significant rehabilitation of the network. At present the Non-Revenue Water in Colombo city is approximately 44.90 % leading to poor water supply service due to leaking of pipes, makes it imperative to reduce NRW on an urgent basis. For this purpose, Colombo city was divided as 69 DMAs.

The major objectives of the project are to increase of water supply availability and efficiency in Colombo city, to enhance the distribution system and reduce NRW from 49 % to below 18 % by the year 2020 (the NRW in 2012 was 49% as per PPTA consultant report), to establish a long-term mechanism to reduce NRW and to enhance the institutional, operational & project management capacity of NWSDB.

Asian Development Bank (ADB) finance the water supply network rehabilitation projects & other associated works in Colombo city. The originally estimated project cost is ADB – 164 USD million and GOSL – 55.1 USD million. At present, additional finance requested from ADB for Project 01 and Project 02 due to the scope change and price escalation, the additional amount received under project 3 is USD 55.64 million (ADB – USD 38 million & GOSL USD 17.64 million).

Colombo Water Supply Service Improvement Project (CWSSIP) is contain the Project 01 & 02. Major contracts of Project 01 (System Rehabilitation of North part of Colombo City & East part of Colombo City) was commenced in 2015 and major contract of Project 02 (System Rehabilitation of West part of Colombo City & South part of Colombo City) is in the awarding stage. The Physical Progress and Financial progress by the end of December 2016 were 13.87% and 22.91% respectively.

Project undertaken with Australian Assistance

12. Integrated Water Supply Scheme for the Unserved Area of Ampara District Phase III Project

This project is to serve about 200,000 people living in the un-served areas of Ampara District and some areas of Monaragala and Batticaloa Districts as well. Main components of the projects are construction of 27,000 cu.m/d treatment plant and intake, elevated towers (Koneshapuram and Bakkiella 1,000 cu.m, Namal Oya, Inginiyagala and Central Camp 750 cu.m., Tottama 600 cu.m.), water sumps (Himidurawa 2,500 cu.m, Paragahakele, Dhadayanthala and Gonagolla 1,600 cu.m.), Supply and laying of DI transmission mains for 100 km and supply and laying of PE pipes and fittings for distribution system (about 1200 km). This project can provide nearly 40,000 new water connections and total cost of the project has been estimated as Rs. 26,720 million.

NWSDB has awarded several contracts under this project. Main contract is the construction of treatment plant, supply and laying of transmission system and related works. The distribution system of 1200 km and another two contracts which includes construction of 06 towers have also been awarded.

The main contract has achieved 100 % physical progress and 100 % financial progress as at end of December 2015 and completed.

Ampara Distribution Network Water Supply Project is on schedule, after obtaining extension up to January 2017 due to bad weather conditions which prevailed in the Ampara district from September 2015 to December 2015. Additional 2000 connections are to be given by the project. Tower Contracts might not be completed as scheduled. It would be completed by March 2017.

This project was running short of local funds under GOSL component for the year 2012, 2013 and 2014. Enhancement of present loan between GOSL and ANZ/EFIC, by 6.5 %, has been received for necessary urgent fund requirement.

Overall physical and financial progresses as at end of December 2016 were 99.55% and 76.15% respectively.

Project undertaken with Belgium Assistance

13. Kolonna / Balangoda Water Supply Project

This scheme comprises two main components, the augmentation of Balangoda Water Supply Scheme and construction of a new water supply scheme for Kolonna.

The project is funded by government of Sri Lanka and government of Belgium. Total (revised) estimated cost was SL Rs 4,988 million of which SL Rs 1,562 million from local funds (GOSL) and SL Rs 3,426 million from foreign funds (Belgium). These were 100% physically completed by end of 2015.

Augmentation of Balangoda Water Supply Scheme was planned to expand the water supply coverage by issuing new connections for 8,000 families and fulfill current deficiencies. In this regard, the augmentation of Balangoda WSS will serve 40,000 population and commercial & industrial water demands in Balangoda Pradeshiya Sabha area, Balangoda Urban Council area and a part of Imbulpe Pradeshiya Sabha area which are situated in Ratnapura District. Accordingly, the total water demand has been assessed as 7,000 cu.m. /day in 2030 which will be abstracted from Walawe river at Weliharanawa where the existing intake is situated in existing Balangoda WSS.

Kolonna Water Supply Scheme was designed to provide safe drinking water to 40,000 people in Kolonna Pradeshiya Sabha area throughout the year and a part of Embilipitiya Pradeshiya Sabha area during the rainy season. Therefore 8,000 new connections will be issued, in addition to commercial and industrial demand. Total water demand has been assessed as 7,000 cu.m. /day in 2030, which is extracted from Eraporuwa river at Vijeriya by constructing a 3m high and 25 m long weir. Further the Irrigation Department and Agrarian Development Department abstract water from the downstream of the said weir for paddy cultivation of about 1,500 acres area. Therefore Memorandum Of Understanding was signed (MOU) among Irrigation Department, Agrarian Development Department and National Water Supply & Drainage Board for water sharing specifically during the dry season.

Slope stabilization of Panamura ground reservoir (GOSL) and replacing of AC pipes of Balangoda existing raw water main (GOSL) were also conducted using the balance funds of the project.

Since Panamura ground reservoir was in vulnerable situation to land sliding, stabilization of the slope was done under this project.

Existing raw water main (AC) at Balangoda was not in a good condition for functioning. Also it is planned to increase the capacity of existing plant from 3000 cu.m to 5000 cu.m in future. Therefore, 1785 m length 400 mm dia. HDPE pipe laying was done for replacing 200 mm dia.

AC pipe.

Since all works of Kolonna Balangoda Water Supply Project were substantially completed and all tests were passed, a substantial completion certificated was issued on 30th September 2015. Treatment plants are operating by NWSDB – O&M staff without any major issues and providing water connections to the public is on going. Also all the project has been handed over to O&M section for operating activities.

General Issues:

Although the foreign contractor (CFE) agreed to transfer required fund to NWS&DB for Weliharanawa access road, due to some issues in fund transferring procedure, still construction of the access road is not commenced.

Another issue was inadequate attendance of contractor for defects arised during operation time of treatment plants.

Productivity improvement activities and overall status of the project.

All constructions of Kolonna Balangoda Water Supply Project were completed during the year 2015. Water quality and required capacity were checked for both Water Treatment plants and pass all tests. Therefore the project can be considered as successfully completed.

Supply, delivery and laying of HDPE/DI pipes, fittings, specials, DI valves and accessories for Distribution System of Kolonna Water Supply Scheme (Panamura Zone) and Supply, delivery and laying of HDPE/ DI pipes, fittings, specials, DI valves and accessories for Distribution System of Balangoda Water Supply Scheme are currently on going under the GOSL funds allocated for K&BWSP and under the supervision of K&BWSP.

Projects Undertaken with Hungarian Assistance

14. Rehabilitation of Labugama – Kalatuwawa Treatment Plants Project

This Project is functioning under the funds of Hungarian government and from the local government funds. The project cost is Labugama - Euro 16,714,045 and Kalatuwawa - Euro 17,383,906.

The project includes all renovation work and new construction work for identified components at Labugama & Kalatuwawa water treatment plants. Project was commenced on 21st October 2013 and it is expected to be completed in February 2017.

The project duration was 36 months and additional 4 month extension was granted for delays due to exceptional weather conditions etc.

The objection of the project was to improve the production capacity as well as the water quality of both the water treatment plants at Labugama and Kalatuwawa. Accordingly the total production capacity of Labugama and Kalatuwawa is increased by 45,000

Cu.m/day by the end of the project.

The phase – 3 of the projects is 12 months technical assistance and will be commenced with completion of the project.



Labugama Water Treatment Plant

Projects Undertaken with United States of America and GOSL Assistance

15. Badulla, Haliela and Ella Intergrated Water Supply Project

The project is to implement an integrated water supply scheme to cover Badulla, Haliela and Ella by developing pipe water supply scheme and providing safe and reliable water to the project area. The project aims to support smooth and timely implementation of the Badulla, Haliela and Ella Development plan and contribute to the industrial development and economic growth in the project area.



Construction of water treatment plant at Demodara

The project is scheduled to complete by 31.08.2017 and the physical & financial progress at the end of December 2016 is 78 % and 84 % respectively. Water treatment plant and dam construction balance works are in progress. Eight Steel tanks are already installed and Landscaping is in progress.

Laying of transmission lines, trunk mains are ongoing with 30 % progress. The permanent road reinstatement is being done by NWSDB.

RSC office building and four Staff quarters at Bandarapura at were completed and handed over to NWSDB.

Tender documents for balance pipe supply and laying valued Rs. 1,533 million have been prepared by NWSDB under GOSL funds.

Land acquisition process is almost completed and all the lands have been cleared as crown lands.

Rehabilitation of existing Treatment Plants and Intake structures at Bandarapura, Eladaluwa, Madiriya and Haliela are almost completed and commissioning works are ongoing.

Projects Undertaken with Chinese Assistance

16. Gampaha, Attanagalla & Minuwangoda Integrated Water Supply Scheme

On design and build basis, on construction of the Basnagoda impounding reservoir, construction of 85,000 cu.m/d capacity intake and installation of 56.700 cu.m/day capacity pumps, laying of raw water main from Basnagoda intake to Karasnagala water treatment plant, construction of 54,000 cu.m/day capacity water treatment plant with 1500 cu.m capacity clear water reservoir, high lift pump house, chemical house workshop, laboratory, stores and office facilities at Karasnagala with provision of a capacity to extend up to 81,000 cu.m/day, laying of treated water transmission main from high lift pump station at WTP to high level reservoir, construction of 10,000 cu.m capacity high level reservoir are included in this project.

Laying of 89.2 km long treated water gravity transmission mains (DI) of dia 1,100 mm to 150 mm from high level reservoir to existing and proposed water towers, construction of 5 nrs. 1,500 cu.m capacity newly proposed water towers, laying of 630 kms of distribution main (DI/uPVC) from diameters 90 mm to 400 mm, construction of Gampaha Manager's office (500 sq.m), Area Engineers office (200 sq.m), quarters (150 sq.m), OIC offices (150 sq.m) and laboratory (50 sq.m) are the other components covered under the project.

Detail designs were carried out by the design groups for distribution and transmission pipe lines, water towers and high level reservoir. The detail design of Naiwala, Pasyala, Balummahara, Minuwangoda and Attanagalla were completed by the design groups and bid documents are being prepared. Detail designs of water treatment plant has been commenced. Loan agreements were signed with the China Development Bank Corporation and Bank of Ceylon. Preparation of Resettlement Action Plan has been started.

Projects Undertaken with Austria

17 Augmentation of Mahiyanganaya Water Supply Project

The project scope is to provide safe drinking water to a rural population of around 50,000 by designing, constructing & expanding public water supply facilities in Mahiyanganaya and Redeemaliyadda.

The construction of intake, water treatment plant, Tower at Thissapura and raw water, treated water Pumping main, laboratory, stores and quarters have been completed by 17.09.2016.

Scope of work under the foreign funds by MUT GmbH 100% completed and total foreign funds were disbursed. Scope of work under GOSL funds are still in progress.



Water Tower in Mahiyanganaya

Projects Undertaken with KBC Bank of Belgium

18. Monaragala-Buttala Integrated Water Supply Project



Kumbukkana treatment plant

The Monaragala-Buttala integrated water supply project was commenced on 30th December 2014 and the planned completion is 30th July 2017.

The objective of this project is to cater for the need of safe water supply facilities to Monaragala, Buttala,

Okkampitiya and Madulla demand centers. This is to fulfill the current and future needs of pipe borne water supply facilities for the people in the area and enhance their health and living standards. Target population served is 60,000 in Monaragala district.

The total cost estimate of this project is Rs. 5,515 million. The project funding agencies are KBC Bank of Belgium, HNB Bank of Sri Lanka and Government of Sri Lanka.

The water sources of the project are Kumbukkan Oya, Menik Ganga and Sumedha wewa. The components of the project are intake which comprises of improvement of existing Menik Ganga intake (3,500 cu.m /day), new intake at Kumbukkana (6,600 cu.m /day) and new intake at Sumedha Wewa (4,000 cu.m /day during drought), treatment plant at Kumbukkana (capacity – 6,000 cu.m /day), the storage tanks at Kumbukkana (2000 cu.m), Buttala (450 cu.m), Horambuwa (650 cu.m), Weliyaya (225 cu.m) and Madulla (225 cu.m), transmission & trunk mains (DI or PE 450mm-150mmdia.)- 27 km, distribution (90mm – 300mmdia.)-102 km (supply & laying - 60 km & supply only - 42 km).

The construction of Kumbukkana water treatment plant, Okkampitiya intake, Buttala intake, Horambuwa and Weliyaya ground reservoirs, Madulla Tower, Office buildings, quarters, laying of transmission and distribution pipe lines are almost completed and commissioning work is in progress.

The overall physical and financial progress as at end of 2016 are 98 % and 57.6% respectively.

LOCAL BANK FUNDED WATER SUPPLY PROJECTS

1. Bentota Water Supply Project

The objective of the project is to extend distribution along Galle road from Kosgoda to Bentota about 9 km length and by roads of 22 GNDs in Bentota DS division. The project cost is Rs.1,239 million. The contract started in November 2014 & expected to complete in Feb 2017. Funding is from NSB. Expected number of connections are 4,500 and number of beneficiaries are 18,000. Main project components are supply of total length of 41.08 km PVC/ DI pipes DI/CI valves & accessories, laying of total length of 38.4km PVC/ DI pipes and accessories, pump installation at Ambalangoda & surge vessel installation at Baddegama WTP . Pipe supply is completed. Pipe laying progress is 98%. Pipe laying work is completed whereas balance Pressure testing (2km) & balance disinfection (6 km) to be done. Progress of pump installation is 25%. Progress of surge vessel installation is 25%. Overall Physical progress of the project is 89%. Total expenditure up to end of December is 579 million and financial progress is 47 %.



225mm dia PVC laying at Galle Road, Bentota

2. Galle Cluster Water Supply Project

The Project consists of improvement works of Weligama, Urugasmanhandiya, Gonapinuwala & Dikkumbura Water Supply Schemes and covered 55 GNDs altogether. The project cost is Rs.1,755 million. The project is to be commenced in January 2017 & expected to be completed in January 2019. Funding is from BOC (754 million) & Peoples Bank (1000 million). Expected number of Connections are 20,000 and number of beneficiaries are 82,000. Main project components are supply of 93.5 km PVC/ DI pipes DI/CI valves & accessories, laying of 89.7 km PVC/ DI pipes & accessories and pump installation at Urugasmanhandiya, Gonapinuwala, Kowulhena, Wakwella & Weligama. Further, 100 cu.m capacity ground reservoir & high lift pump house at Urugasmanhandiya, 225 cu.m ground reservoir, care taker quarters and pump house at Weligama to be carried out under the project scope.

Payment of advance was in progress. Commencement will be issued soon after the payment of advance made to the contractor.

3. Ampara Distribution Network WSP

Ampara phase III Project which was started in the year of 2010 with main components, the construction of 27,000 cu.m/d treatment plant and intake, water sumps (Himidurawa 2,500 cu.m, Paragahakele, Dhadayanthalawa and Gonagolla 1,600 cu.m.), supply and laying of DI transmission mains for 100 km and supply of 698 km PE pipes for distribution network were completed in 2014.

However, due to the unavailability of necessary funds, it was remote to supply and laying of required distribution system. Final endeavor of the project is 40,000 new connections for needy people living in the area. Therefore, GOSL has decided to initiate the Ampara Distribution Network Water Supply Project under the funds from several local Banks of Sri Lanka.

Under Ampara Distribution Network project, NWSDB has awarded the construction of 1,119.3 km distribution network, supply of 527 km length PE pipes, necessary fittings and specials arranged in several packages (the project cost is Rs. 6,848.1 million). The project started in November, 2014 and the revised completion date is 14th January 2017.

Package A consists of supply & delivery of HDPE pipes and fittings for a total length of 527 km and supply & delivery of DI/CI valves, accessories, manhole covers and surface boxes.

Package B consists of laying of PE pipes, fittings, specials, DI/CI valves and accessories for a length of 124 km in Bakkiela area and length of 218 km in Gonagolla area including bridge crossings, culvert crossings, valve chambers and some other related structures.

Package C consists of laying of PE pipes, fittings, specials, DI/CI valves and accessories for a total length of 776 km including bridge crossings, culvert crossings, valve chambers and some other related structures.

Package D consists of construction of bachelor quarters, staff quarters, manager quarters, district engineers quarters, engineers quarters, caretaker quarters with stores in Paragahakale, Gonagolla and Namal oya areas, O.I.C quarters in Uhana, Damana & Central Camp.

Originally it was targeted to provide 10,000 connections from this project and later it was decided to provide additional 2000 connections. However, 10,000 connections have already been provided by end of 2016.

Ampara Distribution Network Water Supply Project is on schedule and the physical and financial progress as at 31st December 2016 is 92.05 % and 81.33 % respectively.



OIC Office - Paragahakele

4. Ruhunupura Distribution WSP

The objective of this project is to enhance water connections in 24 GNDs in Sooriyawewa, Hambantota, Lunugamwehera and Sevanagala DS Divisions. The project cost is Rs. 1,929.61 million and the project period is from 20th November 2014 to 28th February 2017. Funding bank is the Commercial Bank. It has been planned to provide 13,700 connections for Sooriyawewa and Hambantota DS Divisions. Laying 244 km of pipes with the diameters varying from 63mm to 225mm is included in the project. As at December 2016, the physical progress of the project is 94.00 % while the financial progress is 46.18%



Ruhunupura Water Treatment plant

5. Colombo City Water Supply Improvement Project - Phase I

Colombo City Water Supply Improvement Project - Phase I is implemented to improve the existing Colombo City distribution network in Kollupitiya, Fort, Galle Face, D.R. Wijewardena Mawatha, Borrella and Union Place areas to cater future developments by considering the year 2040 demands. Under this project, it has been planned to lay approximately 6.1 km DI pipes, construct six numbers bridge crossings and 3.6 km length of HDPE pipes. The total project cost is USD 6.3 million + Rs. 1,948 million and the project is implemented as a local bank funded project funded by BOC. The project commenced on 20th November 2014, scheduled to be completed on 19th November 2016 and time extension has been granted up to end of January 2017. Physical progress of the project is 91% and financial progress is 70% by the end of 2016. The project was delayed due to objection from the CEB to cross a 132 KVA power cable

at Garmini hall Junction.

6. Towns East of Colombo District WSP

The objective of the project is to provide safe pipe borne drinking water to an estimated population of 373,000 in the Homagama, Kaduwela Padukka, Seethawaka and Horana DS areas. Over 91,000 water supply connections are proposed to be given by this water supply project to the people in the area by the year 2040. The project consist of 03 contract packages and the project cost of the Package 1, Package 2 and Package 3 are Rs. 5,170.00 million, Rs. 4,823.00 million and Rs. 10,049.00 million respectively.

By end of 2016, the Contract Package 01 was in progress, 155 km of pipes have been laid and the physical and financial progress was 64% & 46% respectively. For the Contract Package 2, the contractor has mobilized and order for part of the pipe requirement has been placed. The contract Package 3 was also in progress, 199 km of pipes have been laid and the physical and financial progress was 54% & 43% respectively.



Preparation for 355mm dia pipe welding at Meegoda-Dampe Road

7. Avissawella and Kosgama Integrated Water Supply Project

Avissawella and Kosgama Integrated Water Supply Project is funded by BOC under local bank funded projects. The objective of this project is to enhance the water pipe line distribution system in Avissawella and Kosgama area. The contract has been awarded for the supply and laying of PVC/ DI pipes, fittings and accessories and other works of Avissawella and Kosgama Integrated Water Supply Project and the project cost is Rs. 1,382.40 million. The project duration for Kosgama sub project is 12 months while the same for Avissawella is 18 months from the date of start. The actual date of commencement of the project was 01/06/2016.

The works under this project includes supply and laying of 46 km long distribution pipe system in Kosgama and Avissawella area, intake improvement works at Kosgama and building construction and rehabilitation works at Avissawella site. At the end of 2016, the overall physical progress of the project is 43% while the financial progress is 23% and the total loan disbursement is Rs328.4 million.

There has been considerable variations to the BOQ quantities especially for road authority payments and permanent road reinstatements and to cater the same, a design revision was done and a complicated variation approval process to be followed. This affects the financial progress of the project while the physical progress is moving ahead as planned.

8. Galagedara/Mawathagama Water Supply Project

This Project has been formulated by NWSDB to provide safe drinking water facilities to people in Galagedara – Mawathagama area.

Under this project 5,000 cu.m/ day of treated water will be diverted from Katugastota water treatment plant. Out of this amount 3,000 cum/ day will be provided to Mawathagama area. This amount will be used to provide water to Mawathagama, Paragahadeniya & Pilessa area including 500 cu.m/ day supply to Mawathagama BOI.

The project initiated with funding arrangement with the DFCC Bank under local bank funded projects. The project cost is Rs. 3,126.

The laying of distribution system and the construction of 1000 cu.m capacity elevated water tower are in progress. The overall physical and financial progress as at end 2016 are 10.6% & 20% respectively.

9. LAGGALA NEW TOWN WATER SUPPLY PROJECT



Elephant fence arranged for Contractor's main yard

Laggala New Town Water Supply Project is a local bank funded project on a loan from Hatton National Bank and the contract sum is Rs. 4,496 millions. The project commenced on 21st Jul 2016 and the Scheduled date of completion is 20th Jul 2018.

Project was launched in order to provide water supply facility to Laggala New Town which is formed to resettle the displaced population due to the implementation of Moragahakanda - Kalu Ganga Irrigation Development Project.

Laggala New Town is formed in the eastern boundary of the central province and a quantity of 4,250 cu.m/day of water shall be abstracted from an intake constructed at Kalu Ganga to cater the Town. Target Population to be covered is 30,133 in year 2036.

The main Components of the project are 4000 cu.m/day capacity treatment plant, 1000 cu.m capacity elevated reservoir, 500 cu.m storage tank, 450 cu.m storage tank, 2 No. 225 cu.m storage tanks, 200 cu.m storage tank, 500 m raw water main, 39 km clear water transmission, 190 km distribution lines, OIC office with area laboratory and stores, OIC quarter and 3 care taker quarters.

As the water will be transmitted to storage tanks by means of pumping, supply and installation of electro mechanical devices and supply and installation of pumps and related accessories will also be a part of the project.

The expenditure of the project during the year is Rs. 734 million and the overall physical and financial progress by end of 2016 is 3 % and 16.32 % respectively.

10. Wilgamuwa water supply project



Wilgamuwa water supply project is a local bank funded project on a loan from National Development Bank and the contract sum is Rs. 3,580 millions. The project commenced on 21st August 2016 and the Scheduled date of completion is 31st July 2018.

This Project is launched in order to provide water supply facility to Wilgamuwa Divisional Secretariate which comprises of 39 GN divisions and situated bordering the Central Province in Eastern side, as a measure to overcome the CKD issue prevailing in the area.

A quantity of 6,000 cu.m/ day of water shall be abstracted from an intake well, constructed by the project at Heen Ganga. Target Population to be covered is 33,725 in year 2034.

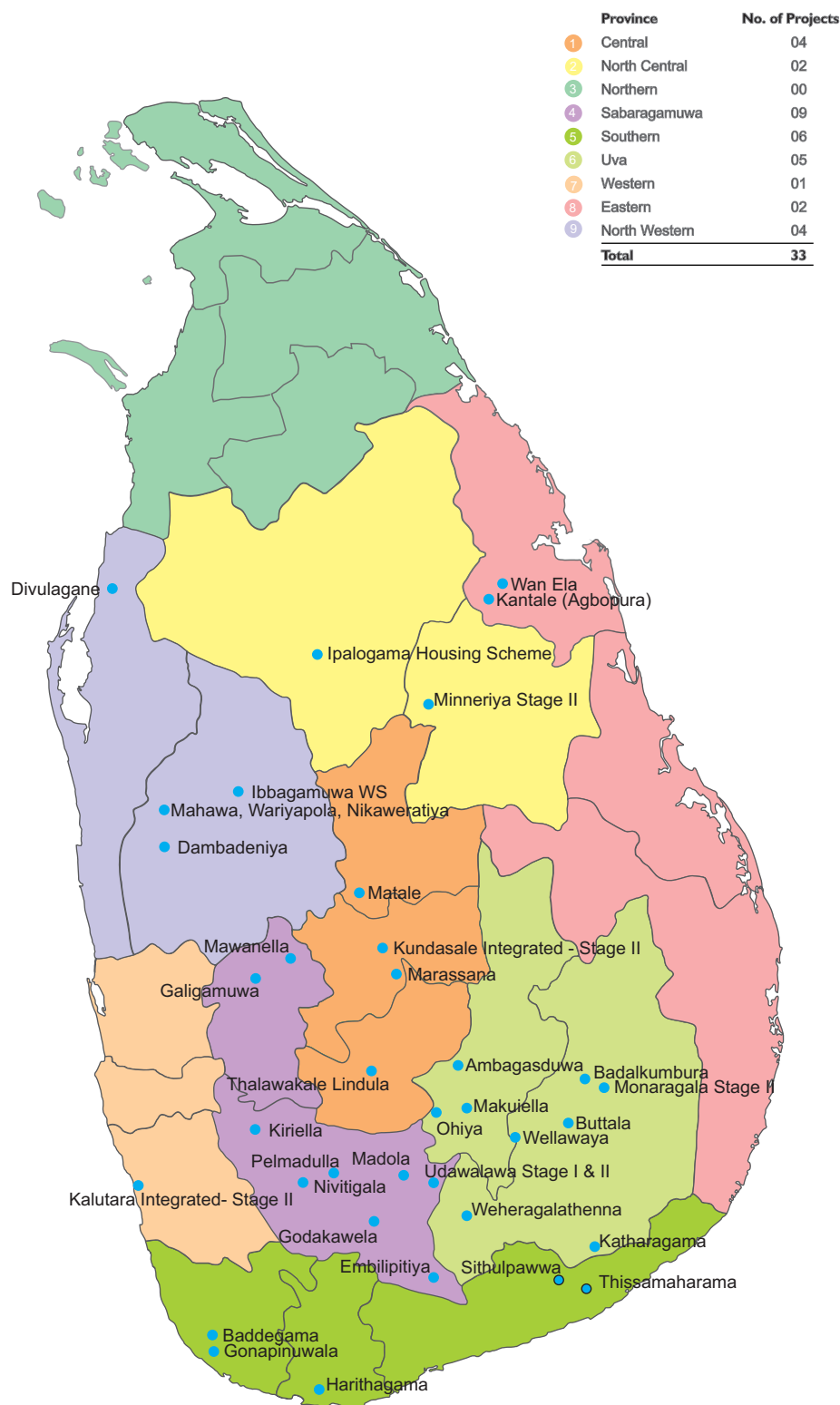
The main Components of the project are 5,500 cu.m/day capacity treatment plant, 800 cu.m storage tank, 2 Nos. 225 cu.m storage tanks, 100 cu.m storage tank, 1 km raw water main, 18 km clear water transmission, 100 km distribution lines, an OIC office, an operator quarter, a single story staff quarter and a care taker quarter.

As the water will be transmitted to the treatment plant by means of pumping, supply and installation of electro mechanical devices and supply and installation of pumps and related accessories will also be a part of the project.

The expenditure of the project during the year is Rs. 496 million and the overall physical and financial progress by end of 2016 is 2.7 % and 13.85 % respectively.

GOSL Funded Small and Medium Scale Water Supply Projects

Location Map of Projects under Construction/ Augmentation During 2016 Funded by the Government of Sri Lanka



GOSL FUNDED SMALL AND MEDIUM SCALE WATER SUPPLY PROJECTS

1.) Central Province

i) Kundasale Integrated Water Supply Project - Stage II

This is an augmentation to serve about 130,000 people in Kundasale, Balagolla, Digana, Arattana and Wavinna, Panwila areas. Water source is Mahaweli River/Huluganga with full treatment and capacity of 30,000 cum/day. The revised cost estimate is 1,685 million. Presently a production of 18,000 cu.m/day is obtained from Arattana WTP. Treatment Plant improvements completed. Pipe laying works up to Panwila town completed and up to Wavinna is in progress. The overall physical and financial progress at the end of 2016 were 97% and 98% respectively.

ii) Matale Water Supply Project

This is a rehabilitation of the existing WSS to serve 30,000 people in Matale town area and suburbs. Water source is Suduganga with full treatment having existing treatment plant capacity 12,000 cu.m/day. The revised cost estimate is Rs. 525 million. It is proposed to improve the capacity up to 16,000 cu.m/day. Under this improvement, construction of a new intake sump, pump house & pumping and distribution system improvements are completed and treatment plant and M&E works are in progress. The overall Physical and financial progress at the end of 2016 were 97% and 82% respectively. (w.r.t. revised TEC)

iii) Marassana Water Supply Project

This is an augmentation to serve 25,000 new beneficiaries in Marassana town and suburbs, using raw water from Ma-oia with a full treatment method and the capacity of the treatment plant is 5,000 cu.m/day. The TEC was revised in 2013 to Rs. 339 million. Present production of 2,200 cu.m/day capacity is not enough to cater the rapid growing water demand of the area. Altogether there are about 3,500 service connections. Supply and laying of pipes at Mailapitiya and Pothgoda zones are completed. No funds were allocated for year 2016. The overall Physical and financial progress at the end of 2016 were 96% and 96% respectively.

iv) Thalawakale / Lindula Water Supply Project

This is an augmentation of the existing scheme to serve 15,000 people in Thalawakele and Lindula areas. Water sources are Great Western and Nanuoya. The revised TEC is Rs. 352 million and funding sources are GOSL and Ceylon Electricity Board (rechargeable). The existing WTP of partial treatment having capacity of 1,650 cu.m/day is being augmented by increasing the production capacity up to 2,500 cum/day. It includes intake improvements and adding new components including aerator, flocculator, sedimentation and pressure filters, rapid sand filters etc. to the WTP. In addition, it is

expected to expand existing distribution system to resettled areas of Upper Kotmale hydro-power project. Construction of intake weir, pump house and WTP, chemical house, installation of intake pumps and external lighting of WTP are completed. It is needed to construct a rapid sand filter for the treatment plant and improvement to access road to intake. The overall physical and financial progress at the end of 2016 were 98% and 73% respectively. (w.r.t. revised TEC)

2.) North Central Province

i) Minneriya Water Supply Project

This is an augmentation of the existing scheme to serve 69,000 people in Minneriya, Girithale and Hingurakgoda area. Water Source is Minneriya tank and existing treatment process consists of slow sand filters and a capacity of 10,900cu.m/day. Total Cost Estimate is Rs. 173 million. Minneriya & Hingurakgoda water supply scheme are functioning from Minneriya WTP which is the only WTP available for the entire DS area. The scope of the project includes upgrading the intake capacity to 13,600 cu.m/day. Augmentation of the existing WTP consists of construction of sedimentation tank, rapid sand filter, storage facilities and new installation of M&E equipment. Improvements for the treatment plants and distribution lines were almost completed. The overall physical progress at the end of 2016 was 100%.

ii) Ipalogama Water Supply Project

This is new scheme intends to serve 152,000 in 2030 beneficiaries in Ipalogama Ranaviru Village including 4 GN division in Ipalogama Pradeshiya Sabha area. The treatment plant with 13,500 cu.m/day capacity and the intake are common to both Ipalogama and Kekirawa existing water supply schemes. The water source is Kalawewa. Total length of the raw water pumping main is 4km and the length of transmission main is 4km. Total Cost Estimate is Rs. 798 million under GOSL funds. The construction of intake and sewerage system for Ranaviru village the construction of treatment plant and water towers are completed. Distribution systems are to be completed. The overall physical progress at the end of 2016 was 100%.

3.) Northern Province

There were no small and medium ongoing projects in Northern Province during the year 2016.

4.) Sabaragamuwa Province

i) Embilipitiya Water Supply Project

This is an augmentation of existing scheme with a treatment plant which intends to serve 84,000 beneficiaries in Nindagampelessa, Embilipitiya, New town, Pallegama, Udagama, Kalagediara, Halmillaketiya, Yodagama. Kubugoda ara, Moraketiya, Hingura, Thunkama ketagal ara and the TEC is Rs. 607.89 million.

The construction of intake, water treatment plant, distribution system etc. is completed. The physical and financial progress at the end of 2016 was 100 % and 96 % respectively. Project has been already commissioned.

ii) Udawalawa Water Supply Project - Stage I & II

This is an augmentation of the existing WSS and the TCE is Rs. 973.20 million. The total beneficiaries are 62,500 in Kolombage Ara, Nindagam Pelessa, Ranchamadama, Thibulketi and Udawalawa, Yaya2, Andaluwa, Maduwanwala, Panahaduwa, Rathkarawwa, Gangeyaya, Sankapala Miriswelpotha, Mahagama. Original scope of the works was completed. The physical and financial progress at the end of 2016 was 100 % and 75 % respectively and the project has been already commissioned.

iii) Godakawela Water Supply Project

This new project intends to provide safe drinking water to 22,500 beneficiaries in Godakawela, Galahitiya, Masimbula suburbs, Alpitiya, Balavinna East, Godakawela, Wara yaya, Balawinna West, Balawinna North, Kompitiya, Mawatalanda, Meddegama, Ridivita, Dambawinna, Kapuhenatenna, Balawinna East, Mawathalanda and Malwatta areas. The water source is Rakwana Ganga and the water is fully treated in a WTP with the capacity of 4,500 cu.m/day. Construction of water intake, WTP, storage tank & distribution system was completed. Total cost estimate is Rs. 288.80 million. Original scope was completed and the project has been already commissioned.

iv) Galigamuwa Water Supply Project

The implantation of the project under GOSL funding had to be stopped during this year. Only the balance payment for executed contracts for pipe laying was completed and the project was transferred to implement under World Bank Funding.

v) Nivithigala Water Supply Project

This project intends to provide safe drinking water to 6,000 beneficiaries covering Watapotha, Sidurupitiya, Thuthiripitiya Halkandaliya, Nivithigala, Yakdehiwatta areas in Ratnapura District. Total cost estimate is Rs. 153.4 million. Major Components of the scheme were completed. Construction of office building was omitted due to land issue. The physical and financial progress at the end of 2016 was 82 % and 65 % respectively. Project has been already commissioned.

vi) Pelmadulla Water Supply Project

This project intends to supply safe drinking water to 22,500 beneficiaries in Pelmadulla covering Ihala Bopitiya, Pelmadulugama, Pelmadulla town, Pahala Bopitiya, Kuttapitiya, Ganegama, Godagama, Rilhena, Udathula, Denawaka, Udakada, Panawenna Borala, Morathota, Nugawela east, Nugawela west, Kattange, Kotakethana, Wellandura, Yainna and Narangoda. The TCE is Rs. 421.09 million. The physical and financial progress at the end of 2016 was 100 % and 98 % respectively. Original scope of works is completed. Project has been commissioned.

vii) Kiriella Water Supply Project

This project intends to supply safe drinking water to 8,000 beneficiaries in Idangoda, Kiriella areas in Ratnapura District. The Total cost estimate is Rs. 205 million. Stage I of the project was completed. The physical and financial progress at the end of 2016 was 100% and 24% respectively. Project has been commissioned.

viii) Madola Water Supply Project

This project is to provide pipe born water to Madola, Vikumsinhagama GN Division under Awissawella WSS. The number of beneficiaries of the project is 4,000. Total cost estimate of the project is Rs. 132 million. project completed without distribution extension to Rajasewaka gammanaya (due to practical problems). The physical and financial progress at the end of 2016 was 82% and 58% respectively. Project has been commissioned.

ix) Mawanalla Water Supply Project

Augmentation of Mawanella water supply scheme (TEC - Rs. 158.92 million) was carried by completing construction of flocculator, rapid sand filters, pump house, supply and installation of intake pumps and high lift pumps etc. Accordingly, treatment plant capacity has been increased by 5,500 cu.m/day where existing capacity was 9,500 cu.m/day. The expenditure up to end of the year was Rs. 57.5 million and physical progress is 98%.

5.) Southern Province

i) Gonapinuwa WSS

Gonapinuwa Water Supply Scheme was commenced in the year 2013 for distribution improvement to Gonapinuwa and suburbs. TCE is Rs. 350 million. No. of Beneficiaries is 20,800. This project comprises of supply and laying of uPVC and DI pipes in the area. Funding Source is Capital Budget.

Supply of uPVC/DI has been completed. Pipe laying works on Baddegama – Hikkaduwa high way access road are completed. Pipe laying works of balance distribution system on by roads to be carried out under Galle Cluster Project. Physical and financial progress by end of the year are 100% and 87% respectively.

ii) Baddegama WSS

Baddegama Water Supply Scheme was commenced in the year 2013 for distribution improvement to Baddegama and suburbs. TCE is Rs. 441 million. No. of Beneficiaries are 33,800. This project comprises of supply of uPVC pipes & DI pipes and laying of pipes in the area. Supply of PVC/DI pipes has been completed. Pipe laying works are being currently going on. Physical and financial progress as at end of the year is 96% and 85% respectively.

iii) Sithulpawwa WSS

Sithulpawwa Water Supply Scheme was commenced in the year 2014 for construction of intake well, crib chamber, pumphouse control room and 25 cu.m capacity intermediate sump and supply & installation of low lift pumps, high lift pumps, back wash pumps and

accessories. This project is funded by GOSL and the TCE is Rs. 116 million and the number of beneficiaries is 10,000.

Construction of Intake well, crib chamber, pump house control room, 25 cu.m capacity intermediate sump and supply and installation of low lift pumps are completed. Other works are in progress and planned completion is 2017. Physical and Financial progress as at end of the year is 75% and 60% respectively.

iv) Thissamaharama WSS

Objective of this project is construction of aerator, sedimentation tank, chemical house & operational building in Thissamaharama WSS. The project was started in 2016 and planned to complete in 2018. Funding source is GOSL. Beneficiaries are 10,000 and TCE is Rs. 393 million. Work is in progress and physical and financial progress at the end of the year is 2% and 5% respectively.

v) Harithagama WSS

Harithagama Water Supply Scheme was commenced in the year 2015 for laying of transmission and distribution system, construction of ground sump with pump house and supply and installation of vertically mounted in line booster pumping sets and accessories. Water source of this project is greater gall WSS. Funding Source is Capital Budget. Beneficiaries are 1,500 and TCE is Rs. 30.2 million. The physical work is completed and financial progress at the end of year is 95%.

vi) Katharagama WSS

Kataragama water treatment plant has been augmented under Austrian funded UNIHA project in 2008. Accordingly, KataragamaWTP capacity was increased up to 8000 cu.m /day. However due to increased turbidity of water, expected capacity couldn't be achieved by the plant in rainy seasons. Therefore it was decided to upgrade Kataragama water treatment plant by improving the existing sedimentation tank, constructing of flocculators, constructing of chemical house and supply & placing of filter media for two slow sand filters. TCE is Rs.137 million. The project is already completed and the physical and financial progress by end of 2016 is 100% and 85% respectively.

6.) Uva Province

i) Ohiya Water Supply Project

This is a new scheme which intends to serve 10,000 people in Hinnarangalla, Galedanda, Welimada, Landegama, Chandamaduwa, Mirahawatha, Guruthalawa, Mahathanna, Dabawinna in Welimada town and suburbs. Water source is Uma Oya with full treatment plant of capacity 4,000 cu.m/day. The total cost estimate is Rs. 264.7 million and the physical and financial progresses at the end of 2016 were about 99% and 100.4% respectively. It has given around 1000 new connections by end of 2016.

ii) Monaragala Water Supply Project Stage II

This is an augmentation of the existing scheme to serve about 10,000 people in Monaragala town and suburbs covering Monaragala, Hulandawa Left, Hulandawa Right, Muppana, Jayasenagama, Madurakatiya and Sirigala. Water source is a stream through G-Lon estate with partial treatment of capacity of 2,850 cu.m/day. The Total Cost Estimate is Rs. 154.8 million and the physical and financial progresses at the end of 2016 were about 100% and 104.5% respectively. It has given around 1000 new connections by end of 2016.

iii) Ambagasdowa Water Supply Project

This is an augmentation scheme to serve 17,750 people in Ambagasdowa and suburbs covering Karagahaulpatha, Madawela and Uwaparanagama areas. Water source is Bomburu Ella with full treatment and a capacity of 3,000 cu.m/day. Total cost estimate is Rs. 382 million. The physical and financial progresses at the end of 2016 were 100% and 100.2% respectively. It has given around 1000 new connections as at end 2016.

iv) Wellawaya Water Supply Project

This project intends to provide safe drinking water to 6,000 beneficiaries of Wellawaya, Kudaoya, Handapanagala, Yalabowa, Warunagama, Thellula and Athiliwewa areas in Wellawaya in Monaragala District. The total cost estimate is Rs. 250 million and the physical and financial progresses at the end of 2016 were about 99% and 75.1% respectively. It has given around 1200 new connections by end of the year.

v) Badalkumbura Water Supply Project

This project intends to provide water to 22,000 beneficiaries in Badalkumbura area in Monaragala district covering Badalkumbura, Alupotha, Nakkala, Karawila, Ella, Hindikiula, Thanwatta and Mediriya areas. The total cost estimate is Rs. 124.4 million. The physical and financial progresses at the end of 2016 were about 100% and 101.9% respectively. It has given around 300 new connections by end of 2016.

7.) Western Province

A.) Western North & Western Central

There were no small and medium ongoing projects in Western North & Western Central Provinces during the year 2016.

B.) Western South

I) Kalutara Integrated Water Supply Project - Stage II

This scheme was designed in order to extend water supply to Payagala, Maggona, Beruwala, Dharga Town, Bentota and Aluthgama areas to serve 210,000 people. Project was started in 2006. Water Source is Kalu Ganga with full treatment and capacity is 56,250 cu.m/day. The revised TEC is Rs. 1,366 million.

The main objective of stage II is to improve the distribution

system to Southern areas of Kalutara. Laying of 600 mm DI/HDPE 9 km pipeline from central junction to Magonna and laying 600 mm DI/HDPE pipeline from Magonna to Beruwala (5 km) are completed. In addition, to strengthen the distribution system of Kalutara area, especially Gladiswatta, Akkara 80 and Maggona, laying of pipes and rehabilitation of Maggona pump house are also completed.

The physical and financial progress at the end of 2016 was 98.5 % and 98 % respectively.

8.) Eastern Province

i) Kantale (Agbopura) Water Supply Project

The main scope of the project is to meet daily water requirement of 8,000 beneficiaries in Akbopura Town, Batukachchi, Sugar factory Road and Bathiyagama in Trincomalee district. It was completed in year 2015. However, additional pipe line extension for Madagama, Thalassawewa, Peramaduwa villages were under taken at the cost of Rs.29.0 million during the year of 2016 and 40% of the works have been completed.

ii) Wan el a WS

This project proposed to construct 750 cu.m water tower, laying of transmission & distribution pipes at total cost estimate of Rs.808.50million to serve for 14,000 beneficiaries in Jayanthipura, Pansalgodella, Soorangala and suburb areas. At present, all pipe works have been completed and tower construction is in progress. However, to meet the urgent demand of the beneficiaries an arrangement has been made for direct supply through pumping and will be commissioned on 13.01.2107.

9.) North Western Province

i) Mahawa/ Wariyapola/ Nikaweratiya Water Supply Project

This is a new project planned to serve 45,000 families in the area. TCE is Rs. 996 million. Nikawaratiya and Mahawa part of the project is completed and now functioning. Capacity of Nikawaratiya/ Mahawa scheme is 6,500 cu.m/ day and the water source is MagalleWewa. Full treatment facilities are available in the scheme. Construction of Wariyapola scheme commenced in 2013. Capacity of the full treatment plant is 2,000 cu.m/day. Water source is Maguruoya. WariyapolaWss was commissioned in December 2014. Construction of chemical house and office building are being carried out as the balance work of Wariyapola WSS. The overall physical and financial progress at the end of December 2016 were 99% and 99 % respectively.

ii) Ibbagamuwa Water Supply Scheme

This is a new water supply scheme to provide drinking water facilities to 11 GNDs in Ibbagamuwa DS division. The total beneficiaries of the project are 7,400. The TCE of the project is Rs. 239 million. The capacity of the treatment plant is 1,500 cu.m/ day. The overall physical and financial progresses at the end of December 2016 were 90% and 90% respectively. The balance work of

distribution and M&E works will be carried out under the Puranagama Project.

iii) Dambadeniya Water Supply Scheme

This is a new water supply scheme in Dambadeniya DS division to covers 70 GNDs with a TCE of Rs. 796 million. The total number of beneficiaries of the project is 51,835. The capacity of the scheme is 4,500 cu.m/ day. The overall physical and financial progress at the end of December 2016 were 75 % and 75 % respectively. Cumulative expenditure is Rs. 224.82 million and for the completion of balance work for the commissioning of the project, Rs. 340 million will be required.

iv) Divulgane Water Supply Scheme

This project is to provide pipe born water to Divulgane and Dalupothagama GN Divisions by dug well with a TCE of Rs. 47 million. The no. of beneficiaries of the project is 1,800. The overall physical progress is 100% as the scheme was commissioned and the financial progress at the end of December 2016 is 99 %.

Projects in Pipeline (WSP)

1. Anamaduwa Integrated WSP (Phase I)

Proposed Anamaduwa Integrated Water Supply Project which will be implemented in three phases covers Anamaduwa, Arachchikattuwa, Mahakumbukkaduwa, Mundalama, Nawagattegama, Pallama, Puttalam and Kotawehera DSDS and Kanuketiya GND of Rasnayakapura DSD. People in the area suffer without safe drinking water due to poor quality and scarcity of ground water. There are around 85 Community Based Organizations (CBO) operated water supply schemes, but they also have some quality and quantity problems, specially hardness and salinity. Anamaduwa and Udappuwa schemes are the only two NWSDB operated water supply schemes.

To overcome this situation, Anamaduwa Integrated WSP has been planned to be implemented in three phases. The phase I includes 11,000 cu.m/day capacity of water treatment plant at Ingimitiya, 12,500 cu.m/day capacity of intake at Ingimitiya, 1.5 km of raw water transmission main and 328 km of distribution network. The projected population in the first phase is about 82,000 and the initial cost of the project is estimated as Rs. 9,722 million.

2. Kelani Right Bank WSP - Stage II

The objective of this project is to provide potable water supply facility to meet increasing high demand for water in towns north of Colombo namely Kelaniya, Kadawatha Wattala, Peliyagoda, Mahara, Ragama, Biyagama, Welisara, Kandana, Ja-ela, Pamunugama, Ekala as well as BIA, BOI and Air Force. A total number of 1,750,000 people living in the above areas will be benefitted under this project by providing 120,000 nos. of new connections. The project is implemented with the assistance of loans provided by Credit Agricole Corporate Bank of France amounting Euro 95,794,399.25, Hatton National Bank of Sri Lanka amounting Euros 13,056,433.39 plus Rs. 10,000,000.00 and GOSL component amounting to Rs. 5,281,720.00. The main project activities are the construction of WTP having capacity of 180,000 cum/day, 1200/800 mm dia. 24.6 km long pumping mains, supply of 300 km long distribution pipe lines of diameter varying from 225 mm to 110 mm and improvement of Raw Water quality in KRB water treatment plant by laying of 9.6 km long polyethylene pipe lines to overcome oil discharge by Biyagama FTZ, CEB & CEYPETCO in Sapugaskanda. The scheduled date of completion will be on 22nd January 2020.

3. Greater Matale WSP

Proposed Grater Matale Water Supply Project will be covering seven divisional secretariats such as Matale, Ratota, Ukuwela, Pallepola, Yatawatta, Naula and Abanganga Korale Divisional Secretariats. These seven DS division covers 260 GNDs and it has covered ½ of the GNDs in Matale district. The main drinking water source of majority of the people in the area are existing WSS in Matale, Ukuwela and Udathenna which have

unsatisfactory service delivery according to the general public view (no proper treatment facility Ukuwela and Udathenna). Other main water sources are HPTW and DWs (Public and private own individual and common wells). Water requirements of population live in some GNDs are facilitated by CWSSP and Pradeshiya Shabha WSS who mainly use this water for drinking purposes. The quality of drinking water has always been a major concern and has been issues for a long period in the Matale district. The designed demand of the project is 74,918 m³/day in year 2035. The total estimated cost of the project is Rs. 23,959 million + VAT (2,994.9 million) and the projected population served in 2035 is 352,507.

4. Deduruoya Water Supply Project

The Objective of this water supply project is to provide safe drinking water to a part of the people in Mahawa and Polpithigama DS Divisions as a result of which chronic kidney disease can be controlled. Deduruoya water supply project will be covering 97 GN divisions in Mahawa and Polpithigama DS Divisions. About 90,700 people living around these areas will be benefitted by this project. The project is implemented with the assistance of loans provided by Korean Exim Bank amounting US\$ 58.155 million and GOSL component amounting to Rs. 1326 million. The main project activities are the construction of Water source – Deduru Oya Reservoir Left bank canal, 34,500 cum Raw Water Intake, 15,000 cum Water Treatment Plant, 3.5 km long 500 mm dia. DI raw water main, Clear water transmission lines, 3 elevated towers at Mahawa, Nagollagama & Polpithigama, 266 km long clear water distribution network (ranging from 450 mm dia. to 90 mm dia).

Planning and Design (WSP)

Planning and Design

Western Section

Planning works carried out

The western sub section of Planning & Design Division has carried out the following planning works during the year.

- Preparation of Feasibility Report for Replacing of Transmission and Distribution Mains from Orugodawatta to Kaduwela. Proposed project was initiated with the improvement of Orugodawatta – Ambathale road, with the widening of the road to four lane capacity by Road Development Authority. The existing transmission mains & distribution mains were planned to replace and the estimated cost was Rs. 9,250 million.

- Preparation of financial model for PPP contracts for Welivita Water Supply Project. P&D inputs were given to prepare RFQ document.

- Preparation of RFP document for Consultancy services under Kalu Ganga Water Supply Expansion Project (I). Proposed project comprises of 294,000 m³/day capacity intake and 140,000m³/day capacity Treatment Plant at Kandana, DI transmission mains, distribution network and construction of Towers and Ground reservoirs.

- Preparation of Design & Build Tender document for Construction of Six storied Office building at NWSDB Head office premises.

Planning and Designing of head office improvements works

Detailed Design Carried out

The following detail design works have been carried out during the year.

- Detailed design and coordination of construction activities of five storied office building at the head office.
- Detailed design and preparation of tender documents for Replacing of Transmission and Distribution Mains from Orugodawatta to Kaduwela.

- Transmission main Network Model for Welivita Water Supply Project.

- Rehabilitation of Filters for Seethawaka Export Processing Zone.

- Detailed design of pipe supporting structure for raw water mains from intake to Ambathale Water Treatment Plant across Madiwela canal.

Design Review work carried out

The following Design Review works have been carried out during the year.

- 1200mm dia transmission main from Gothatuwa to Maligakandha for Greater Colombo Water and Waste Water Management Improvement Programme (GCWWIP).

- Design Review of Rehabilitation of Labugama Water Treatment Plant and rehabilitation of Kalutuwwa Water Treatment Plant.

- Preliminary design review of Gampaha, Attanaglla and Minuwangoda Integrated Water Supply Scheme.

- Preliminary design review of Kelani Right Bank Water Supply Project -Stage II.

- Towns East of Colombo District Water Supply Project Packages 1, 2 & 3.

- Colombo City Water Supply Improvement Project.

Southern/ Eastern Section

Planning Works Carried out

The following planning works were carried out during the year.

- For Ehaliyagoda Water Supply Scheme, preparation of procurement documents for topographical is completed and the selection of lands and land acquisition is in progress.

- Selection of lands, preparation of tentative cost estimate and pre-feasibility report are in progress for Heda Oya Water Supply Scheme.

- A new intake design for proposed Etampitiya Water Supply Project was carried out by the P&D due to disagreement of MASL.

- Investigation for Demodara foot bridge crossing was carried out for Badulla – Haliella Water Supply Project.

Detailed designs carried out

- The detail designs of following projects which are implemented under funding of IDA credit 5685.lk through Water Supply and Sanitation Improvement Project were carried out

- The detailed designs including hydraulic, structural and mechanical & electrical designs for construction of Pambahinna Water Supply Scheme which comprises water treatment plant, intake, distribution system, DI raw water and transmission mains, two ground reservoirs, office building, quarters etc., were carried out. Preparation of detailed drawings, BOQs and procurement document were carried out and completed during 2016. The detailed designs including hydraulic, structural and mechanical & electrical designs for construction of Pambahinna Water Supply Scheme which comprises water treatment plant, intake, distribution system, DI raw water and

transmission mains, two ground reservoirs, office building, quarters etc., were carried out. Preparation of detailed drawings, BOQs and procurement document were carried out and completed during 2016.

- The detailed designs of Siyambalanduwa Water Supply Scheme including pontoon intake, raw water transmission main, transmission main, treated water gravity mains, ground reservoir, distribution system, 03 Nos. quarters, OIC office building and site works and treatment plant (including aerator, flocculator, plate settler, rapid sand filter, activated carbon filter, ground reservoir, pump house and sludge treatment process) were completed.

- Completed the detail designs of Haldumulla Water Supply Scheme including conventional water treatment plant (which includes aerator, flocculator, plate settler, rapid sand filter, ground reservoir and sludge treatment process), two ferrocement tanks, ground reservoir, pump house, 03 quarters, OIC Office building etc., design of raw water main, treated water transmission mains and distribution system.

- Preparation of RFP document for consultancy works and design build works for Ruwanwella WSP which including Intake at Kelani Ganga, treatment plant, 3 water towers and one ground reservoir was completed and Engineers estimates were prepared for both consultancy works and design build works.

- Preparing of tender documents of Rs. 100 million budget for Kolonna Water Supply Scheme (Panamura Zone) including preparation of BOQ and detailed drawings was completed and tender was awarded. Tender for another Rs. 200 million budget is in progress.

- Preparing tender documents of Rs.100 million budget for Balangoda Water Supply Scheme including preparation of BOQ and detailed drawings was completed and tender was awarded.

- The preparation of project appraisal document and the preparation of procurement document for Kolonna Balangoda Monaragala Buttala Badulla Mahiyanganaya Group Water Supply Project are in progress. It is proposed to expand the pipe networks of the said areas where the drinking water production was already improved by the previous foreign funding projects. The project is expected to implement under local bank funding.

- Detailed designs were carried out for improvements of Kirindi Oya water supply scheme. Hydraulic and structural designs of flocculator, plate settler, rapid sand filter and chemical feeding system were carried out and preparation of detailed drawings and BOQs were completed.

- Design for improvements of flocculator at Ranna Water Supply Scheme was completed.

- Detailed designs to feed existing Bandagiriya Water Supply Scheme from Andaragasyaya Ground Reservoir was completed. Hydraulic designs of gravity transmission main from Andaragasyaya ground reservoir of Ruhunupura Water Supply Project to Bandagiriya sump and Keliyapura tower were carried out.

- Preparation of tender document for yard piping for six towers of Ampara Phase III Water Supply Scheme is in progress.

- Design of distribution system for un-served areas of Ampara district (Dhadayanthalawa, Central Camp, Paragahakalle, Namal Oya, Inginiyagala, Himdurawa, Thottama) for Ampara Distribution Networks Water Supply Project. Review of ancillary building and sump & pump house (Piyangala) for Ampara Distribution Network Water Supply Project.

Design Review Works

Designs Reviews of Monaragala – Buttala Integrated Water Supply Project., Badulla - Haliella Water Supply Project and Mahiyanganaya Water Supply Project. Were continued during the year.

North/ North Central Section

Planning Work carried out

- Planning of proposed Mullaitivu Water Supply Scheme (under World Bank funds).

- Planning of Erukkalampiddy Water Supply Scheme.

- Planning of Mulankavil Water Supply Scheme (under World Bank funds).

- Planning of Deduru Oya Water Supply Project (EDCF – Korean Exim Bank funds), preparation of Consultancy services RFP, Design Build contract document, Obtaining EDC & SCAPC approvals, conduct Pre-conference, pre-bid meetings etc;

- Planning and completion of works under Greater Polonnaruwa Township Development Water Supply Project.

- Preparation of bidding document for Towns East of Polonnaruwa Water Supply Project.

Design Review work carried out

- Review of conceptual designs & detailed designs of treatment plant of Grater Kurunegala Water Supply & Sanitation Project.
- Review of transmission and distribution network designs and conceptual designs and working papers of Water Treatment Plant of JICA Anuradhapura North Water Supply Project Stage I.

Detailed Designs carried out

- Designs of roughing filter, tower and sump, pump house & ancillary buildings for Mullaitivu Water Supply Scheme (under World Bank funds) and completion of drawings & tender documents.
- Designs of distribution network for Mullaitivu Water Supply Scheme (under World Bank funds).
- Designs of aerator, lime dosing tank, roughing filter, tower and sump, pump house & ancillary buildings for Mulankavil Water Supply Scheme (under World Bank funds) and, completion of drawings.
- Designs of distribution network and water tower and buildings for Mulankavil Water Supply Scheme (under World Bank funds).
- Design of transmission lines, ground sump and pump house (under Greater Polonnaruwa Township Development Water Supply Project).

M&E Section

The M&E section of planning & Design Division has carried out number of design works during the year. Siyabalanduwa WSS, Sumeda Wewa intake, Mulathive water supply project, Haldumulla - Beragala Integrated WSS, Pambahinna Water Supply System, Keselwatta-Kiriberiya pump station design work, Gothatuwa-Moragasmulla pump house, Supply & installation of M&E equipments & accessories for Modarawila waste water collection network & treatment plant, Supply & installation of sewage pumping sets & accessories at Dehiwala for male student hostel of university of visual & performing arts, BOI/AIRPORT water supply rehabilitation project, Documentation work for Sri Padastana sewer equipment purchasing work, Water Hammer effect analysis of different water supply schemes, Supply, installation, testing and commissioning of M&E equipment and accessories for Kadduwa Intake and Updating D5 manual are the design of schemes and documents that the section involved during the year.

In addition, the M&E section also involved in design

review works during the year. Badulla/HaliEla WSP, Monaragala & Buttala Integrated WSP, Mahiyangalaya Integrated WSP, Kataragama Sacred City Sewerage Infrastructure Development Project, Jaffna - Kilinochchi WSS & Sanitation project, Gampaha, Attanagalle & Minuwangoda Integrated WSP, Water supply scheme for un-serviced area of Ampara district phase III are the design review works carried out by the section in 2016. Further, the section also involved in supervision work of South wing Building mechanical & electrical work.

Documentation Section

Documentation Section of Planning and Design comprises three sub sections, namely Documentation Sub Section, Design Manual Updating Sub Section and Quantity Surveying Sub Section.

Documentation Sub Section

The Documentation Section under takes preparation and updating of Standard Bidding Documents, Standard, Specifications, Pre-Qualification Documents and uploading to NWSDB website.

Preparation of 2 new Standard Bidding Documents, 4 new Specifications, 2 new Pre-Qualification Documents and revisions of 54 Standard Bidding Documents were completed in the year 2016.

In Addition to the above activities the documentation sub section also functioned as the Secretariat for the Standard Bidding Document Review Committee which was re – established in year 2008 to review the Bidding Document and to resolve the procurement issues in National Water Supply & Drainage Board. The Standard Bidding Document Review Committee held 21 meetings. Further the Documentation Sub Section has been acting as the secretariat for the monthly progress review meeting conducted by the P&D Section.

Design Manual Updating Sub Section

Design Manual section of P&D undertakes updating/preparation of Procedure/Design Manuals of NWS&DB. During year 2016 following works have been carried out under the guidance and instructions of the Planning & Design Manual Review Committee (PDMRC)

•The PI Manual which has been incorporated the PDMRC comments, has been reviewed by the ADB Consultant with the participation of AGM (Doc) and CE (Design Manual). The Manual has been rearranged to make it more comprehensive and it shall be forwarded to PDMRC following to editing.

- Second draft of the D3 Manual has been completed by incorporating the PDMRC comments on the Manual. It shall be circulated to the PDMRC. In order to complete this task, in year 2016 eight numbers of Design Manual Review Meetings (15 days) on D3 – Manual have been held.

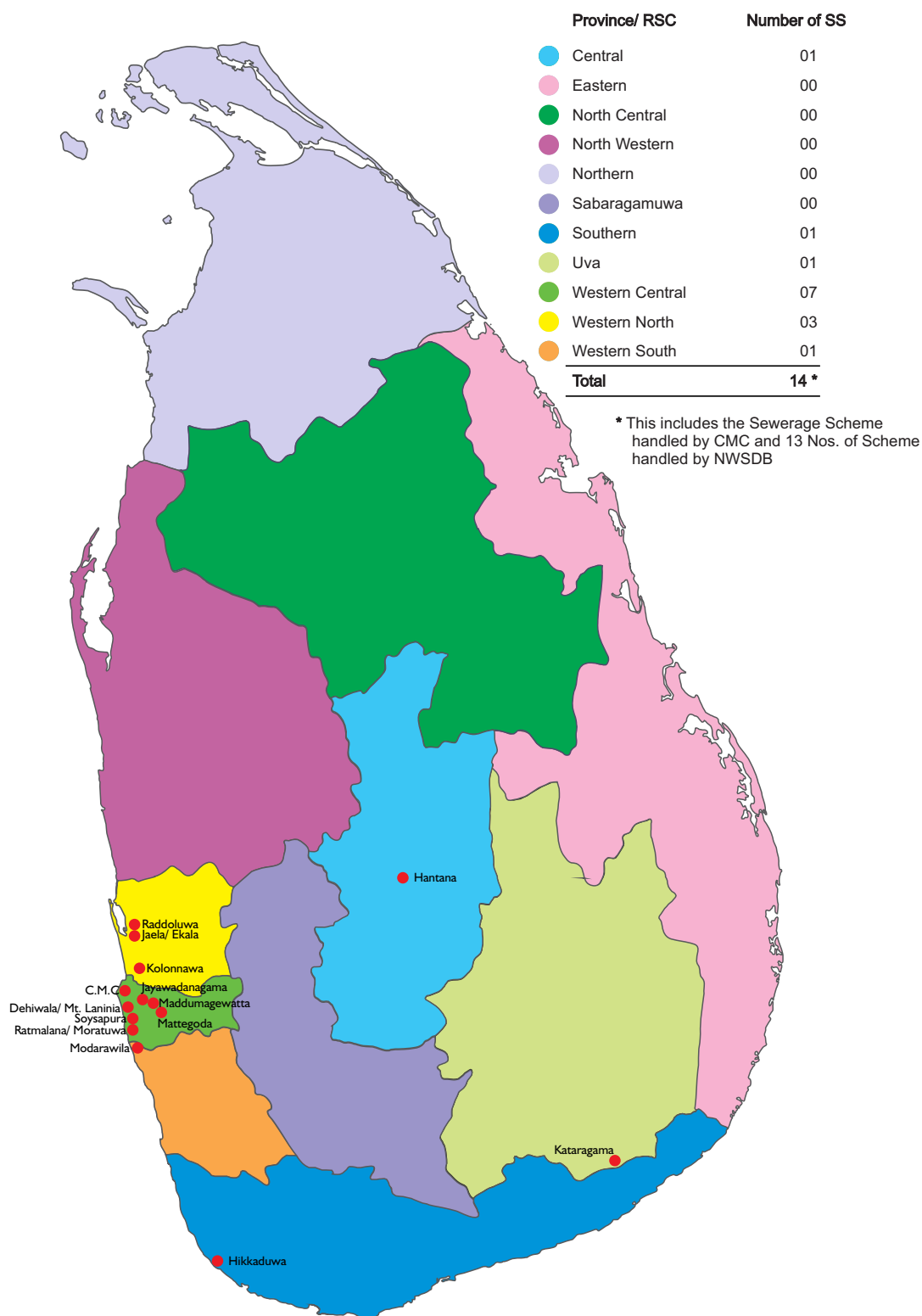
- Review of the Pre Stressed Concrete Manual for Circular Tanks and detail structural calculation has been almost completed with the participation of Contractor ABE Nikko, JPU Section and CE (Manual). However it shall be clarified the design platform to complete the works. This Manual has been prepared by the Japanese contractor ABE Nikko under the JICA assistance.

Quantity Surveying Sub Section

The Quantity Surveying work includes the preparation of BOQ of all the Design Works carried out by the P&D section of Head office, Preparation of Engineer's Estimates, Rate Book for Water & Sewerage works, valuation of variations, Water & Sewerage work studies to prepare work norms for pricing of work items and reviewing of Engineers Estimates prepared by Projects.

During the year 2016, this Sub Section has prepared 188 BOQQ, 21 Engineer's Estimates for local funded contracts and 03 Engineer's Estimate for World Bank Funded Water Supply and Sanitation Project and cost proposals for 01 Design & Build Project for partially treated Water Supply Schemes, preparation of Annual Rate Book for Water Supply and Annual Rate Book for Sewerage for year 2015. Site visits were done for preparation of BOQQ and Engineer's Estimates for some projects. The section also involved in price negotiations with Contractors for some projects.

Existing Sewerage Schemes





Projects Commissioned and other Sewerage activities

Commissioning of New Schemes

A new wastewater scheme for Sripadasthana was commissioned in March 2016 at a cost of Rs.220 million.

Internal sewerage system of the Cancer Institute Maharagama was rehabilitated at a cost Rs. 25.0 million and handed over to Cancer Hospital.

Institutional Development Activities

(I) Establishment of a Regional Manager's Office at JaEla/Ekala

A Regional Manager's Office was established at JaEla/Ekala for better operation and maintenance activities of JaEla/Ekala Sewerage Scheme. Raddoluwa sewerage scheme was taken over by Manager (JaEla/Ekala) in September 2014 and Biyagama EPZ was taken over by Manager (Ja-Ela/Ekala) in January 2016.

(ii) Quarters for Executive and Non-Executive Staff at Soysapura

Construction of 4 quarters for executive and 4 quarters for non executive staff at Soysapura, Ratmalana were completed at a cost of Rs. 62.1 million. Stage II of the quarters were completed at a cost of Rs 62.0 million.

(iii) OIC office building for Raddolugama

A new OIC office Building was completed in November 2016 at a cost of Rs 5.5 million

iv)Developing a Quality Management System for Sewerage Section

Sewerage Section has been awarded ISO 9001: 2008 / SLS ISO 9001: 2008 Certification with effect from 2015.06.03. Sewerage Section is the first administrative office of NWSDB that received ISO 9000 Certification and also the first organization in sewerage arena of the country to receive such certification.

- The scope of certification includes.

Policy formulation for wastewater management

- Formulation, planning & designing and implementation of wastewater projects, and

- Operation & maintenance of wastewater facilities

v) Establishing of "Sewerage Section Social Care Society"

After obtaining ISO 9001: 2008 / SLS ISO 9001: 2008 Certification, a Social Care Society was established to fulfill the Corporate Quality Objective of "More contribution towards social responsibility". The mission of this society is "Care wastewater protecting the environment".

Addl GM(Sewerage) is the chief adviser of this society.

Other Productivity Improvement Activities

(i) Detecting and Legalizing of Un-Billed Sewer Connections

Survey for detecting of Un-Billed Sewer Connections has been carried out in Dehiwala-Mt. Lavinia and it was possible to identify 693 such connections. Actions have been taken to legalize those connections with 1-2 year penalty for loss of revenue.

(ii) Island wide awareness programmes on implementing Existing Code of Practices of Wastewater Discharge

It was planned to organize island wide awareness programmes on implementing existing Code of Practices of Wastewater Discharge when implementing building construction.

O&M Activities

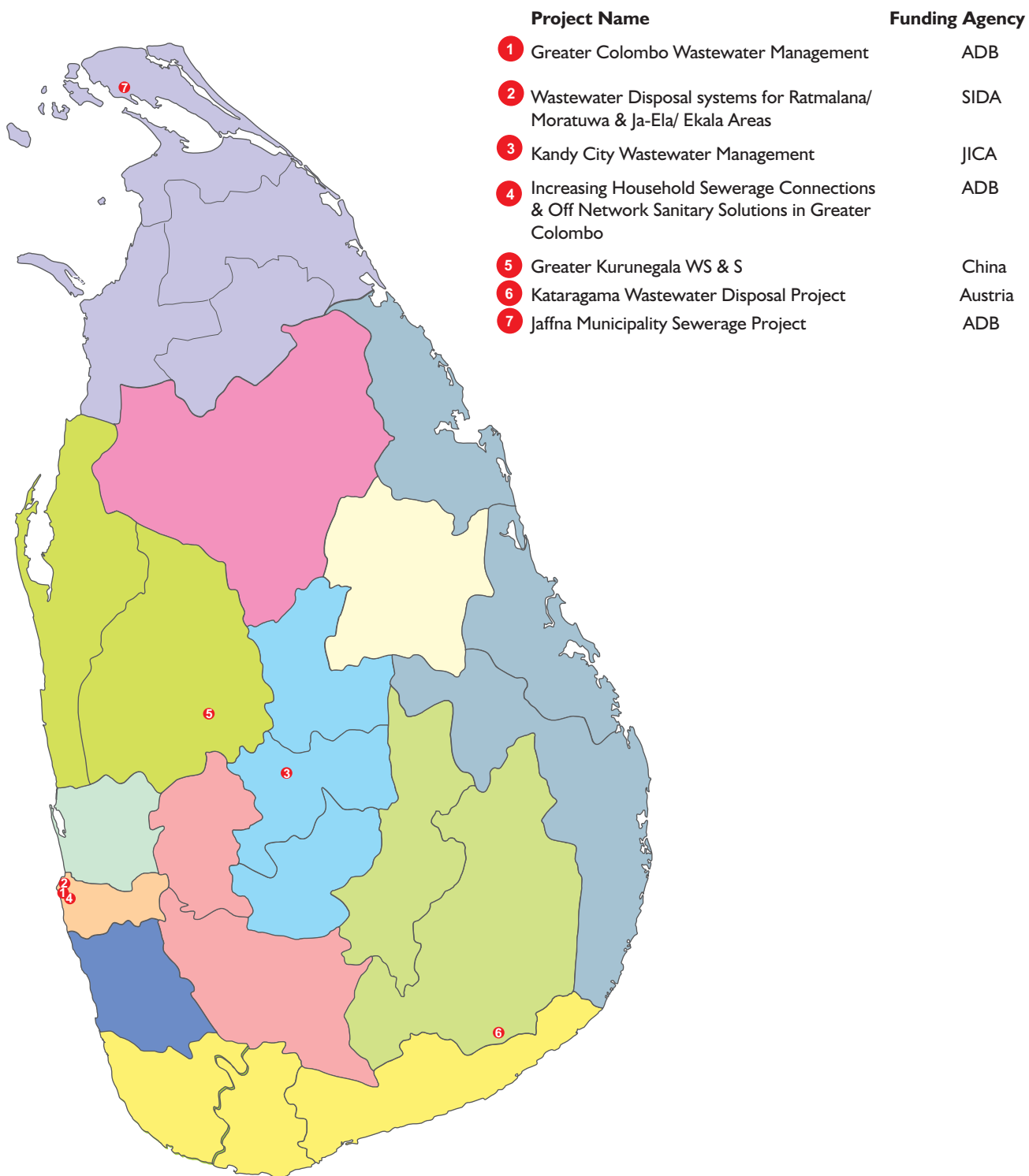
The Greater Colombo Sewerage Section is responsible for the operation and maintenance of the sewerage systems of Dehiwala-Mt.Lavinia Municipal Council area, Moratuwa MC area, JaEla UC area, Kolonnawa Urban Council area and sewerage systems of some NHDA housing schemes and several government institutions in the Greater Colombo area. There are about 17,035 sewer connections maintained by the NWSDB.

Accordingly, Soysapura, Mattegoda, Jayawadanagama, Raddolugama, Maddumagewatta and Modarawila housing schemes and the government institutions like Presidential Secretariat, Speaker's Residence, Parliament (water and sewerage), Sethsiripaya (water and sewerage), Isurupaya (water and sewerage), Jayawardanapura Hospital etc. are maintained by the NWSDB.

In addition, sewerage systems of Kataragama, Hikkaduwa and Hantana housing scheme are also maintained by respective area managers under RSCs. Furthermore, maintenance services are provided on contracts basis to BOI owned industrial parks such as Koggala, Biyagama and Seethawaka.

Ongoing Sewerage Projects

Accomplishments of Major Sewerage Projects under the Ministry of City Planning & Water Supply,
Location Map of Foreign-funded Projects under Construction/ Augmentation during 2016



Foreign Funded Sewerage Projects

Projects undertaken with Asian Development Bank Assistance

1.) Greater Colombo Wastewater Management Project

This project funded by the Asian Development Bank through the Loan 2558- SRI (SF), signed in December, 2009 has been designed to improve the collective wastewater and sewage systems in Dehiwala / Mt. Lavinia and Kolonnawa-Meethotamulla areas, managed by the NWSDB.

The project scope has been prepared to carry out all the construction activities as a single contract, which was awarded following an International Competitive Bidding process. The total ADB fund allocation for the project (together with the re-allocation received in 2016) is USD 9.43 M while the GOSL contribution is SLRs. 364 M. The total estimated cost of the project is SL Rs. 1430 (as per Central Bank exchange rate, 1 USD = SLRs. 151.66 valid for 30th Dec., 2016)



The date of commencement of the project was established as 16th September, 2014 while the original completion date was fixed as 16th August 2016. An 'Extension of Time' was granted upto 31st March 2017 based on a claim for extension made by the Contractor in favor of completion of the construction activities.

The project scope has been designed in such a way that all the construction activities are to be implemented while the live systems of each pump station are in place, without interruption to operational activities.

As a result of implementation of the project, all the pump stations underwent complete structural renovations of pump house buildings together with ancillary structures, piping work and landscaping in the premises. A new operational building is being constructed at one of the pump station sites (KP-3 site) to manage the operations in Kolonnawa Zone and to accommodate operational staff. Replacement of Mechanical and Electrical equipment was a major and very significant part of the scope, which has been successfully carried out in 05 of the pump stations. All the pump stations are incorporated with SCADA instrumentation for continuous monitoring of the activities.

Newly imported pumps were installed in 05 pump stations to make those pumps stations operational without interruption to manage sewer and wastewater

inflows. Thereby the issue of maintaining normal operational levels has been addressed eliminating the risk of overflowing/ flooding of pump stations, which prevailed for many years due to operation of old pumps.

A dispute on the "Acceptability of Main Pumps on the basis of the Country of Origin" has been referred to Arbitration following the Adjudication process completed, through which a decision was delivered in favor of the Contractor.

As of end of December 2016, 90% of physical progress from the original scope has been achieved in addition to some contract variations deemed very essential, such as Suction-pipe Upsizing in all the pump stations and a Roof with a new design for MLP-2 site, while the financial progress remains at 65%.

Projects undertaken with Swedish Assistance

2.) Wastewater Disposal Systems for Ratmalana/Moratuwa & Ja - Ela/Ekala Areas

This project is to collect industrial, residential & commercial wastewater, treat and dispose to the water bodies in an applicable manner to avoid the harmful effects to the people and the environment of the project area. This project consists of; The main components of Rathmalana/ Moratuwa are the wastewater treatment plant of capacity 17,000 cu.m/day, 04 Nos. pumping stations, 1100 mm diameter, 600 m length pipe to sea out fall, 23.7 km gravity sewers, 10.6 km rider sewers and 7.7 km pressure main.

The main components of Ja-Ela Ekala Area are the wastewater treatment plant of capacity 7,250 cu.m/day, 03 Nos. of pumping stations, 700m out fall pipe to Dandugam Oya, 2,225m pipe net work 7.9 km gravity sewers, 2.60 km rider sewers and 5.5 km pressure mains are the main components. The progress and smooth implementation of the project got hampered due to the termination of the works Contract in November 2013. This change of circumstances forced the PMU to change its role using available staff in the absence of the International supervising Engineer and to shoulder additional responsibilities amidst chaos. However, the works identified as essential is now completed and the project is now considered as completed. 96 % completed. Presently, 121 nrs. Industries/ The other component, Ja-Ela/ Ekala constructed under this project now operates under GCS section had achieved operational sustainability. With the completion of infilling contract, Rathmalana/Moratuwa component too will become operationally sustainable. Upon completion, the overall Financial Progress of the project up to end of December 2016 was 90.31% and the overall Physical Progress of the project up to end of December 2016 was 100%.

Ratmalana/Moratuwa Area component was 100% completed in Feb 2016. Presently, 185 Nos. Industries/Institutions & 2835 Nos. Domestic consumers have been connected to the system.

Ja-Ela/Ekala Area component was 100% completed in Feb 2012. The scheme is currently operated by O&M section and serves 99 Nos. Industries, 27 Nos. Commercial/Institutions & 1340 Nos. Domestic consumers and 01 No. Air force Camp.

3.) Kandy City Wastewater Management Project



Inauguration Ceremony of Package 4

- The indiscriminate disposal of wastewater in the Kandy city causes pollution of the Kandy lake, Meda ela and Mahawali river, the main drinking water source to Kandy and Matale districts. In order to find a permanent solution to this problem, NWSDB proposed to implement a wastewater disposal system for the Kandy city. The proposed project intends to collect wastewater in an area of 732 hectares in the city and then divert to a treatment plant of capacity 14,000 cu.m/ day through a network of 92 km long pipe lines.

- This project will be completed in 2018. Around 55,000 resident populations and 150,000 migrant population in Kandy will be benefitted from this project..

The treatment plant will ensure the disposal of treated wastewater back to the environment complying with the following effluent discharge standards: Biological Oxygen demand (in 5 days at 20 °C) less than 20mg/l, total suspended solids less than 20 mg/ l, chemical oxygen demand less than 250 mg/l. Total Nitrogen less than 10 mg/l and fecal coliform (most probable number per 100 ml) less than 40 as stipulated in the Central Environmental Authority guidelines.

The total cost estimate of the project is Rs.22,588 million. JICA loan amount of Japanese Yen 14,087 million and government consolidated funds of Rs.4,060 million have been allocated for taxes, duties, road authority payments and land acquisition costs etc.

There are 4 main Packages in the Project and contracts were awarded and being executed for all 4 Packages. Delay of award of property connection contract may have consequences on the effective commissioning of the project.

Package 1 (Design and Construction of Wastewater Treatment Plant, Main Pump Station Treated Effluent Disposal System and Sludge Drying Beds)

Design activities of Package 1 was commenced on 03rd March 2015. Construction activities commenced on 19th February 2016. Construction of 04 Nos. of Oxidation Ditches are ongoing in the Wastewater Treatment Plant. Construction of Quarters also started.

Package 2 (Design and Construction of Trunk Sewers, Branch Sewers and Service Connections, Manhole Pump stations and Supply of Operation and Maintenance equipment)

Construction Works of Package 2 was commenced on April 2015 and works are in progress. 46km sewer pipes were laid including Manholes, Service lines, IC and necessary testing such as light and mirror, air testing also done for some stretches.

Package 3 (Design & Construction of Property Connections & Testing and Commissioning)

This Contract covers the 9,205 nrs. of property connections. Contract was awarded on 21st June 2016. Contract activities were commenced on 05th July 2016. Level Survey & Conditional Survey are ongoing. Detail design for the selected properties are in progress and the construction works to be started.

Package 4 (Construction of Communal Sanitation Facilities in Designated Low Income areas & Testing & Commissioning)

The Contract included the construction and rehabilitation of 14 nrs. of toilet blocks which include 138 toilets and 02 Nos. of bathing places in Kandy Municipal Council area. Contract was on 19th January 2016. Contract activities were commenced on 03rd February 2016. Construction works at 8 locations are in progress.

Private Latrine Programme

512 nrs. of individual toilets are to be constructed under this programme. This work will be performed through Community Based Organizations (CBO). 03 Nos. of CBOs have been formed already and training programmes are being conducted to educate them in finance handling, operation and maintenance works.

Due to prevailing condition of soil transport permit, Contractors face difficulties for achieving their targets.

4.) GPOBA (World Bank) Funded Project for Increasing Sewerage Connections in GC Area.

- The main scope of this Project is Increasing Household Sewerage Connections and Off-Network Sanitary Solutions in Greater Colombo Low income households.

- Direct Connections to Households in Dehiwala / Mount Lavinia, Jaela / Ekala, Ratmalana / Moratuwa and Kolonnawa Area sub project has been completed by providing 1234 sewerage connections including within the premises 100 connections in somananda mawatha. DEWTS for Diyawarapura 64 number of fisheries houses was successfully commissioned and completed the defect liability period.

- Three pumping stations constructed and commissioned in Badovita simplified extension with pumping, and 1500 sewerage connections have been completed including their within the premises sewers.

- DEWATS for Ratmalana Tsunami Housing scheme sub project was completed by rehabilitating the existing treatment plant and providing 328 sewerage connections.

- Construction of 7.9km gravity sewer extension was completed in the sub project of Simplified and conventional extensions in Dehiwala/Mt.Lavinia, Moratuwa, Kolonnawa and Ja-Ela/Ekala area which will cover 1475 connections and physical progress is 58.4%.

- The On –Site sanitation improvements which will cover 3785 households was commenced and physical progress of the project is 7%.

- Construction works in progress for Decentralized Wastewater Treatment System for Lunawa Samudra Shakthi Housing Scheme which benefit for 160 families. Physical progress of the project is 19.2%.

- Awareness programs and meetings were conducted in project areas and poster campaigns and mobile announcing programs were conducted. As productivity improvement, 5S program is implemented in the project. According to the contractors, finding manpower for sewerage works has been difficult and some projects were delayed due to this reason.

5.) Greater Kurunegala Water Supply & Sewerage Project.

- The project commenced in February 2014 and this project contains both Water and Sewer components. The Construction Started in January, 2015 and is in progress up to end of 2016.

- The project consists of raw water intake with raw water transmission line of 8.5 km, new water treatment plant of capacity 5,000 cu.m/ day and rehabilitation of existing WTP to capacity 9,000 cu.m/ day, Ground reservoir at Wehera, Elevated reservoir, supply & laying of 7.5km treated water transmission and 110 km of distribution network for the supply drinking water.

- Sewerage plant with the capacity of 4500 cu.m/day, gravity sewer pipe line length - 134 km, force main pipe length - 4.5 km, 06 pumping stations, 3,500 house connections and repair and refurbish the sewerage pipe system of Kurunegala Teaching Hospital for the providing adequate sanitary facilities to improve the living standards of the people living in and around Kurunegala City are included in the sewerage component..

- Export – Import Bank of China and Government of Sri Lanka (GOSL) are providing the necessary funding for the project as US\$ 77.30 million and SLR. 3,200.00 million respectively.

- The project has achieved physical progress of 73.04 % and financial progress of 60.27% at the end of 2016. Foreign and GOSL funds were disbursed as US \$ 48.89

million (67%) and SLR. 1,209.87 million (38%) respectively. .

As per the scope of the Water Component, 50% of intake and Pump House, 7.5 km pipe laying work in the raw water main and 70 % of work in water treatment plant and 90 % of work in elevated tank were completed. Most of the mechanical and electrical equipment has arrived to the site and the installation work has been started. Pipe laying work for 84km of water distribution network has been completed.

For the Sewerage Component, all the structural works except guard room has been completed at the sewerage treatment plant. Finishing works including block works, plastering, backfilling etc. in progress. Most of mechanical and electrical equipment has been arrived to the site and the installation has been started. It has been achieved 64% of overall completion of sewerage treatment plant. 57.6 km Sewerage pipe laying work was completed including installation of 245 interception chambers in sewage collecting network.

During the year 2016, GKWSSP conducted the community awareness programs regarding the waste water management systems specially focused on domestic sewerage connections. Several local and foreign training programs were conducted for technical and non-technical staff during the year 2016.

Project undertaken with Austrian Assistance

6.) Kataragama Wastewater Disposal Project

The proposed project has focused on provision of the pipe borne sewer facilities for pilgrim rests, hotels, shops, domestic units and offices etc. around the city limits to avoid further pollution of Manik Ganga and the surrounding environment. The main scope includes upgrading of the existing system by expanding the sewer network and improving the sewerage treatment plant. By installing mechanical aerators, the capacity of the existing treatment plant would be upgraded from 750 cu.m/ day to 3000 cu.m/ day in order to accommodate the huge floating population visiting Kataragama. Uni Credit Bank Austria AG is providing funding for implementation of this project. The total estimated cost is Rs. 2,040 million.

Design of WWTP and Collection network, construction of 3000m³/day capacity WWTP with mechanical installations and downstream maturation pond, laying of 16 km collection network and construction of 7 numbers pump houses with installation of pumps are the main components of this project.

The original project period was from August, 2014 to August, 2016. With the extensions received, the target completion of the project is 30th June 2017 (including 03 months operation).

The project work was commenced on August 2014. It is expected to complete the work by August 2016 and extended up to June 2017. No. of beneficiaries will be 15,000. Overall physical and financial progress as at end of 2016 is 74% and 72% respectively.

GOSL Funded Small and Medium Scale Sewerage Projects

Western Province

(a) Construction of wastewater disposal system for defense head quarters complex at Akuregoda Battaramulla

(a) Construction of wastewater disposal system for defense head quarters complex at Akuregoda Battaramulla

The work consists of construction of 1200 cu.m/ day capacity wastewater treatment plant consisting of inlet pumping station, debris and grit removal facility, aeration tank, settling tank, sludge pump station, sludge thickener, sludge drying beds, compost filter, maturation ponds, distention chamber, office building and control room and electro mechanical installation.

TCE is Rs, 437 million. Physical and financial progress as at December 2016 is 69.85 % and 17.34 % respectively.

(b) Upgrading the Wastewater Collection and Transmission in Kolonawa

The work consists of supply and laying of 458 m long, 315 mm dia. HDPE gravity sewer main from Puwakgaswatte junction to KP2 pumping station with 08 nrs. concrete manholes, supply & laying of 40 m long 250 mm dia HDPE

pipes from Salamulla housing scheme to KP1 pumping station with 04 nos concrete manholes including canal crossing and 458 m long permanent reinstatement of roads from Puwakgaswatte junction to KP2 pumping station.

Physical and financial progress as at December 2016 is 100% and 89.58% respectively

Sabaragamuwa Province

(a) Construction of Wastewater Collection & Disposal System for Sripadasthanaya

The work consists of supply and laying of 500 m long, 150mm dia. HDPE gravity sewer main from Udamaluwa to Treatment Plant, Construction of a Treatment Plant consisting Equalisation Tank, Septic Tank, Anaerobic filters, Wetland and disinfection facility. The capacity of the Treatment Plant is 62.6 cu.m/ day. The total estimated cost is Rs 220 million.

Physical & financial progress as at December 2016 is 100% and 94.43 % respectively.

Projects in Pipeline (Sewerage)

Western Province

1. Sri Jayawardenapura Kotte Wastewater Collection & Disposal System

With the rapid development of Sri Jayawardenapura Kotte during the last two decades, most of the existing developed lands have been undergone sub divisions to meet the demand for housing and along the main roads for commercial development. Due to reduction of the size of building plots and existence of shallow wells nearby lands, it has become very difficult to establish a proper septic tank in a given building plot.

Low lying areas have also been filled to meet the demand for lands. This has increased the water spread of marshland and waterways contributing to flooding. With the increase of ground water table and due to the low permeability of soil, large amount of wastewater from poorly functioning septic tanks and soakage pits collects to side drains and ultimately drained to nearby surface water courses finally contaminating the ground water sources. Therefore, a centralized sewerage system is essential to cater for the rapid development that has taken place in Welikada - Rajagiriya area as well as the Sri Jayawardenapura Kotte urban council area and adjacent parts of Kaduwela D.S. Division and Maharagama UC area in order to provide proper wastewater disposal for these areas. It is expected to provide about 28,000 sewer connections as the total estimated cost is Rs. 40,542 million.

Since the Tentative Cost Estimate (TCE) was prepared for the project in 2012, the TCE has to be revised according to the new rates. Lands for 22 pump houses were identified in the project area and the land acquisition is in progress.

EIA study is in progress for the project. JICA study has been started for the project and preparation of a feasibility report is in progress. A land for the treatment plant has been identified instead of the originally proposal of discharging through sea outfall and the project will be commenced under JICA funding if approvals obtained for the land and disposal the treated effluent to Diyawanna Oya.

2. Negombo Wastewater Disposal System

Negombo is a major coastal town on the western coast of Sri Lanka; the Tsunami in December 2004 destroyed and rendered inoperable many elements of the existing on-site sanitation infrastructure. With continuing population growth in the town, which has resulted due to pressure on land availability and a consequent steady reduction in the sizes of building plots, the problem of septic tank effluent disposal could be aggravated with time. It is expected to provide about 15,154 sewer connections. The total estimated cost is Rs.16, 477 million.

The EIA Study is almost completed and the study for treatment plant land is ongoing. Land acquisitions of pumping houses are ongoing and acquisition of treatment plant land will be started when the completion of EIA Study.

Loan Agreement amounting to 76 million Euro with Agences Franciase De Development (AFD) has been signed for the implementation of Sanitation and Hygiene Initiative for towns (SHIFT-I) Project in South-West of Sri Lanka. Under this project, Design and Implementation of Wastewater Disposal System of Negombo Municipal Council area, design and tender documentation of Galle Municipal Council area and Kelaniya-Peliyagoda area will be done.

At present, procurement works of consultant are in progress. In parallel with this financing facility from AFD, a grant amounting to 5.7 million Euro has been received from European Union for the technical assistance of the project.

3. Maharagama & Borelasgamuwa Wastewater Disposal System

There are important national institutions such as University of Sri Jayawardenepura, National Institute of Education, and National Cancer Institute are located in Maharagama area. A centralized sewerage system is essential to cater for the rapid development that has taken place in the, Maharagama and Boralasgamuwa townships, and to prevent further deterioration of the environment.

Wastewater flow of Maharagama and Boralasgamuwa will be brought to the Rathmalana/Moratuwa treatment plant which was constructed under Ratmalana-Moratuwa Wastewater Disposal Project. It is expected to provide about 5000 sewer connections. The total estimated cost is Rs. 5,125 million.

The contract was awarded on 05th November 2014 for the implementation of the project and the proposed Bank for funding is Export Import Bank of China. The loan Agreement with Export Import Bank of China and GOSL is to be signed. The Initial Environmental Examination (IEE) study is by University of Moratuwa and the draft final report will be submitted. Land acquisition is in progress. There was a delay in the IEE final report submission.

4. Dehiwala/ Mt.Lavinia Wastewater Disposal project

Dehiwala Mt. Lavinia is highly urbanized, residential and commercialized city since it is located adjoining to Colombo and Sri Jayawardenepura Kotte the commercial capital and administrative capital of Sri Lanka respectively. It is situated in Colombo District and consists of Dehiwala and Ratmalana Divisional Secretariat Divisions. Dehiwala DSD comprises of 15 GN divisions and Ratmalana DSD comprises of 13 GN

Divisions.

There is an existing sewerage disposal facility, has been functioning since 1987, covering the GN Divisions of Dehiwala West, Jayathilaka and Mt. Lavinia GN Divisions including the segment of Galle Road from sea side of Mt Lavinia Junction up to the bridge across Dehiwala canal in the Dehiwala Mt. Lavinia Municipal Council area. Currently there is a high demand for piped sewerage disposal system due to unavailability of proper wastewater disposal system in the unsewered area. Therefore, the rest of the area in Dehiwala and Mt. Lavinia together with adjacent three GN Divisions of Kesbawa DSD are incorporated into the proposed project area. The estimated total area covered under this project is approximately 919 ha and the expected population to be served in the year 2040 is 138,230 being 75 % of the projected population in year 2040. The proposed project consists with 41.2 gravity sewer mains, 4.1 km of gravity mains as deep tunnel, 39 km of rider & branch sewers p 12 numbers of wet well pumping stations, 6.5 km of pumping mains and 1.7 km long sea outfall (1500 mm dia.) etc. The estimated cost of the project is Rs. 28,523 millions.

At the moment the project is awaiting the Cabinet Approval. EIA Study . The pumping station land acquisition are in progress.

5. Kelaniya/ Peliyagoda Wastewater Disposal Project

Kelaniya PS and Peliyagoda UC are situated in Gampaha district of western Province along Colombo-Kandy Road in the interior part of the country. They are rapidly developing as a gateway to Colombo, the commercial Center of Sri Lanka. Both Kelaniya PS and Peliyagoda UC depend on septic tanks and pit latrines for disposal of night soil. Some people who have settled near canals and marshland discharge the effluent directly into the waterways, there by polluting the environment and posing health hazards. Therefore there is potential demand for sewerage services. Ground water table is very high in this area.

The proposed project consist with 12.5km gravity sewer mains, 10.4 km of pumping mains, 50km of riders, laterals and branch sewers and 7 numbers of wet well pumping stations. In the proposed wastewater disposal system, the wastewater collected in Kelaniya PS and Peliyagoda UC will be reticulated with series of pumping stations and finally will be disposing to the sea through a long sea outfall as 1st Option and will be directed to short sea outfall through wastewater treatment plant as 2nd Option. EIA Study or land acquisition work has not been started yet. The projected population to be covered in both Kelaniya PS and Peliyagoda UC in 2043 will be 76,279 at the annual growth rate of 1.1 %. Tentative cost estimate is Rs. 14,605 million for the completion of the project and expected numbers of connections are 14,081.

Loan Agreement amounting to 76 million Euro with Agencies Franciase De Development (AFD) has been signed for the implementation of sanitation and Hygiene Initiative for towns (SHIFT-1) Project in South-West of Sri Lanka. Under this project, Design and tender documentation of WWDS of Kelaniya-Peliyagoda Pradeshiya Sabha Area, Design and tender documentation of Galle Municipal Council Area and design and implementation of Negombo Municipal Council Area will be done.

At present procurement works of consultant are in progress. In parallel with this financing facility from AFD, a grant amounting to 5.7 million Euro has been received from European Union for the technical assistance of the project.

6) Gampaha Wastewater Disposal Project

The Gampaha Municipal Council area is the main urban centre for the Gampaha Divisional Secretariat Division. Gampaha MC is a highly urbanised and commercialized city since it is located in the western province and adjoining to Colombo the commercial capital of Sri Lanka.

The project is proposed to cover 21 GN divisions out of 33 GN divisions in Gampaha Municipal council area including Gampaha city, Miriswattha and Yakkala.

As per the new project proposal, the anticipated domestic population, to be directly served in year 2045 is 33,601 in 21 GN divisions. In addition to permanent residence a floating population of 172,175 will be benefitted by the proposed project. The Design Wet Weather Flow (DWWF) of the project is about 15,000m³/day.

The proposed sewer reticulation system consist with 30.4 km gravity sewer mains, 6.4 km of pumping mains, 61 km of rider and branch sewer pipes and 17 number of wet well pumping stations. The proposed wastewater treatment system is proposed as Activated Sludge Extended Aeration and treated wastewater is planned to dispose to Attanaglu Oya via 3.1 km long river outfall. The estimated cost of the project is Rs. 18,442 millions.

At the moment Feasibility study was completed and project proposal was forwarded to Project Appraisal committee for approval.

North Western Province

1. Chilaw Wastewater Disposal System

Chilaw is situated 75km north of Colombo is a populous town and is famous for coconut, prawn and fishing industry.

Due to flatness of the topography in Chilaw, there is no readily identifiable drainage pattern, but there are four main storm water drainage canals that discharge directly into the sea. Drainage is particularly challenging, due to faults in canal leveling, water from the lagoon backs up

into the main drainage outlets in the urban area. Chilaw Urban council emptying the septage, that is collected from the pits and tanks directly on to the ground surface. Waste water from the Base hospital is discharged directly into a pond situated between the rail line and sea through a pumping main.

Under the proposed scheme, a 1,000 cum/ day capacity treatment plant with 500m short sea outfall is proposed. The total cost of the project is Rs. 3,776 million and 1,050 houses will be connected to the scheme.

The contract was awarded for the implementation of the project and the proposed Bank for funding is Export Import Bank of China. The loan Agreement with Export Import Bank of China and GOSL is to be signed.

2. Puttalam Wastewater Disposal System

Puttalam is situated 125 km north of Colombo is a small but very populous town and is famous for salt and fishing industry. Puttalam lagoon is one of the largest lagoons in Sri Lanka. Norochcholai Coal power Plant is located 12 km from Puttalam in the Kalpitiya Peninsula.

Under the proposed scheme, a 1,000 cu.m/ day capacity treatment plant with 500 m short sea outfall is proposed. The total cost of the project is Rs. 4,025 million and 1,250 houses will be connected to the scheme.

The contract was awarded on 05th November 2014 for the implementation of the project and the proposed Bank for funding is Export Import Bank of China. The loan Agreement with Export Import Bank of China and GOSL is to be signed.

Southern Province

1. Galle Wastewater Disposal Project

Galle is a major coastal town on the western coasts of Sri Lanka. It is located at about 117 km to the south of Colombo on Colombo- Hambantota Main Road. The Tsunami devastation in December 2004 destroyed and rendered inoperable many elements of the existing on-site sanitation infrastructure.

The projected population in the year 2030 is approximately 120,600. It is expected to provide about 11,402 sewer connections. There are 05 pumping stations and their land acquisition is in progress. EIA study and the treatment plant land acquisition have been completed. The project cost is Rs. 13,325 million.

Loan Agreement amounting to 76 million Euro with Agences Franciase De Development (AFD) has been signed for the implementation of sanitation and Hygiene Initiative for towns (SHIFT-1) Project in South-West of Sri Lanka. Under this project, design and tender documentation of WWDS of Galle Municipal Council area, design and tender documentation of Kelaniya-Peliyagoda Pradeshiya Sabha area and Negombo Municipal Council Area will be done.

At present procurement works of consultant are in progress. In parallel with this financing facility from AFD, a

grant amounting to 5.7 million Euro has been received from European Union for the technical assistance of the project.

2. Hambantota Wastewater Disposal Project

Hambantota to be developed as an economic hub mainly interconnected to the natural harbor that has enormous potential to develop as an international Sea Port. Proposed infrastructure includes Oil Refinery, Industrial Zone, and Administrative Center, International Convention Center, Botanical Garden, International Sport Complex and International Airport. It is expected to provide about 9,034 sewer connections. The water supply and sewerage project is to be implemented in ports development area in Hambantota in order to cater for industries located within the port premises. The total estimated cost is Rs. 11,519 million. The project components are 41 km of gravity main, 41 km of pumping main, riders (30 km) branches (41 km), 12 pumping stations and the treatment plant. The treatment system will be a Waste Stabilization Pond System and the treated effluent will be re-used for irrigation purposes.

Hambantota wastewater project has been awarded to agreement has also been signed between the two parties. The lands for the pump houses and treatment plant have been acquired already and ready to commence the construction. There was a delay in the EIA process since the approval to discharge the treated effluent was getting delay, as the treated effluent is going to be re-used for irrigation purposes. Approval from Department of Agrarian Services has been obtained.

Eastern Province

1. Kattankudy Wastewater Disposal Project

Kattankudy is a coastal town located 7.0 km South of Batticaloa Town in the Batticaloa District in the Eastern Province, consisting of 18 GN Divisions Vextends over a land area of 3.89 Sq. km. A world famous major tourist attraction, Pasikuda beach is situated not so far away from the project area. The treatment plant is proposed to locate within Kattankudy and the consent from the land owners have been obtained this year. It is expected to provide about 13,308 sewer connections. The total estimated cost is Rs. 11,407 million. The project consists of 17km of gravity mains, 9km of pumping main, riders (9km), branches (14km), 11 Nos. of pump houses and treatment plant and the treated effluent will be discharged into sea through a short sea outfall.

Kattankudy wastewater project has already been awarded and subsequently the agreement also has been signed between the contractor and NWSD. The loan agreement has to be signed shortly and the implementation of the project is to be started in the year 2017. The Initial Environmental Examination (IIE) study is completed by University of Peradeniya and the draft final report has been submitted to CEA for evaluation. The land acquisition is in progress for the pump house and treatment plant lands.

2) Batticaloa Wastewater Collection, Treatment and Disposal Project

The Batticaloa town is to be developed as a fisheries and tourism related urban agglomeration, because of its high potential for tourism development and fisheries expansion. This town is to be developed as a second order service center by 2030, in the proposed hierarchy of urban centers. The area lies on the narrow belt of land between the sea and the lagoons. The ground water table is very shallow and the population density is high making on-site sanitation not sustainable. Therefore, it has been identified that one of the greatest and most urgent needs is a suitable sewerage system to address the health and well-being of the Batticaloa population and to reduce the contaminated waters discharging directly to the lagoon, which is used for fisheries-related livelihoods. The tentative cost estimate for construction of above project would be Rs. 14,915 million. This project consists of 32km of gravity main, 19km of pumping mains, riders (15km), branches (20km), 11 pumping stations, treatment plant and a short sea outfall.

PAC and Board approvals have been obtained for the Batticaloa Wastewater Project and the Project Concept Paper has been sent to NPD approval. Land for the pump houses have been identified and land acquisition is in progress. EIA study to be commenced in 2017.

Uva Province

1) Badulla Wastewater Disposal Project

Badulla town is highly urbanized, residential and commercial city belongs to Uva Province. Due to absence of central wastewater treatment plant, Badulla Municipal

council area experienced high volume of wastewater generation, improper wastewater disposal which lead to environmental pollution in the city limits, especially water quality of the Badulu Oya is drastically decreased when the low flow conditions during dry period of the year. Further to that, Badulupitya area is also facing the same difficulty due to highly congested dwelling units and due to urbanization.

Therefore a wastewater collection and disposal system is proposed for Badulla urban area including 03 GN divisions namely Baduluppitiya, Badulla East and Badulla Central.

The anticipated population, to be directly served in the year 2044 is 16,798 in the 03 GN Divisions (3,732 households). In addition to permanent residence, a floating population of 27,000 will be benefitted by the proposed project. The Design Wet Weather Flow (DWWF) of the project is about 4,000 cu.m/day.

The proposed sewer reticulation system consists with 16.9 km gravity sewer mains, 5.3 km of pumping mains, 10km of rider pipes and 11 number of wet well pumping stations. The proposed wastewater treatment system is proposed as Activated Sludge Extended Aeration and treated wastewater is planned to dispose to Kudaoya which is a branch stream of Baduluoya. The estimated cost of the project is Rs.7,473 millions.

At the moment Project Appraisal committee approval and Board approval was obtained for the project and the project concept paper was forwarded for National Planning department for approval.

Planning and Design (Sewerage)

Planning work carried out during 2016

Preparation of feasibility report for Gampaha Wastewater Collection and Disposal Project

The proposed project comprises, construction of 15,000 cu.m / day capacity wastewater treatment plant, sewer reticulation network including 30 km of gravity sewers, 60 km of rider sewers and branch sewers, 6.3 km of force mains, 17 numbers of wet well pumping stations, 3km of river outfall and other associated works.

Design review work carried out

Review of preliminary designs and detailed design were completed for proposed waste water treatment plant, sewer reticulation network including gravity pipes, force mains and waste water pumping stations for Kataragama Sacred City Area Sewerage Infrastructure Development Project.

Detailed Design carried out during 2016

- Design of 25 cu.m / day Waste Stabilization Pond system for Mullaitivu District. (Under World Bank Fund)
- Design of 25 cu.m / day Waste Stabilization Pond system for Killinochchi.

Report of the Audit and Management Committee

“During the year under review the Audit and Management Committee met 5 times”



The Audit & Management Committee was formed as per PF/PE/3 circular dated 19th November 1999, obtaining concurrence of the Board of Directors of National Water Supply & Drainage Board via Board Decision No: 2965(b) of Board Meeting No. 590.

The purpose of Audit & Management Committee is to extend its assistance to Board of Directors as per the guidelines of PED 55 dated 14/12/2010.

The prescribed roles & responsibilities of the Committee have been cited as follows.

- The Audit & Management Committee is required to review the continuing impartiality of the Internal Auditors and their effectiveness.
- The Audit & Management Committee should assist the Board in the task of overseeing to ensure that Financial Reporting is done in compliance with relevant Sri Lanka Accounting Standards and other applicable legal requirements.
- The Audit & Management Committee should assist the Board to ensure that all relevant rules & regulations and circulars issued by the government are adhered to, with continuous reviewing and monitoring, also making recommendations to the Board on non-Compliance.
- The Audit & Management Committee should review the Internal/External Audit Reports, Management Letters and the recommendations of COPE, and help the Board to take remedial actions.
- The Audit & Management Committee should assist the Board to introduce and implement adequate Internal Control System.

In the year 2016 the Committee was consisted of the following members.

- | | | |
|-----------------------------|--------------------------|-----------------------------|
| 1. Mr. J.M.U.P. Jayamaha | - Board Member - | Chairman of the Committee |
| 2. Mr. Shantha Rathnayaka | - Board Member | |
| 3. Ms. K.A. Subadra Walpola | - Board Member | |
| 4. Mr. B.W.R. Balasuriya | } General Manager | } Member |
| 5. Mr. G.A. Kumararathna | | |
| 6. Mr.D. Thotawatta | - Addl.GM(F) | |
| 7. Mr.G.K. Iddamalgoda | - Addl.GM(HRM) | |
| 8. Mr.W.B.G. Fernando | - Addl.GM(CS) | |
| 9. Mr.R.M.A.S. Weerasena | - DGM(IA) | |
| 10.Mr.M.S. Rajabdeen | - Vice Chairman | |
| 11.Mr.B.W.D. Lasantha | - Audit Superintendent | |
| 12.Ms.S.W. Gunawardene | - Chief Internal Auditor | |
| 13.Ms.W.P. S. de Silva | - Secretary to the Board | -Secretary to the Committee |

During the year under review the Audit and Management Committee met 5 times and the following were noted important and regularly discussed agenda items.

- i. Tabling of Annual Report of NWSDB for the year 2013, 2014 and 2015.
- ii. Financial statements for the year ended 31st December 2015.

iii. Online Inventory Management system.

iv. Project Finance Procedure Manual.

v. Internal Audit Plan for year 2016 and 2017.

vi. Review of Internal Audit Report of (January - December), 2015 & (January - June), 2016.

Human Resources Management Issues, Technical Audit, Lapses in Project Management, Updated Information of Assets (lands) belong to NWSDB were some focus areas of matters discussed.

vii. Response to the Queries raised by the Government Audit and the Internal Audit.

viii. Auditor General's Report on the Financial statement of the NWSDB for the year ended 31st December 2015 and NWSDB responses to the Audit Report 14 (2) ©.

Performance was reviewed with respect to, Production and distribution of clean water, Non-Revenue Water, Operational efficiency of Foreign Funded Projects and Local Bank funded Water Supply Projects.

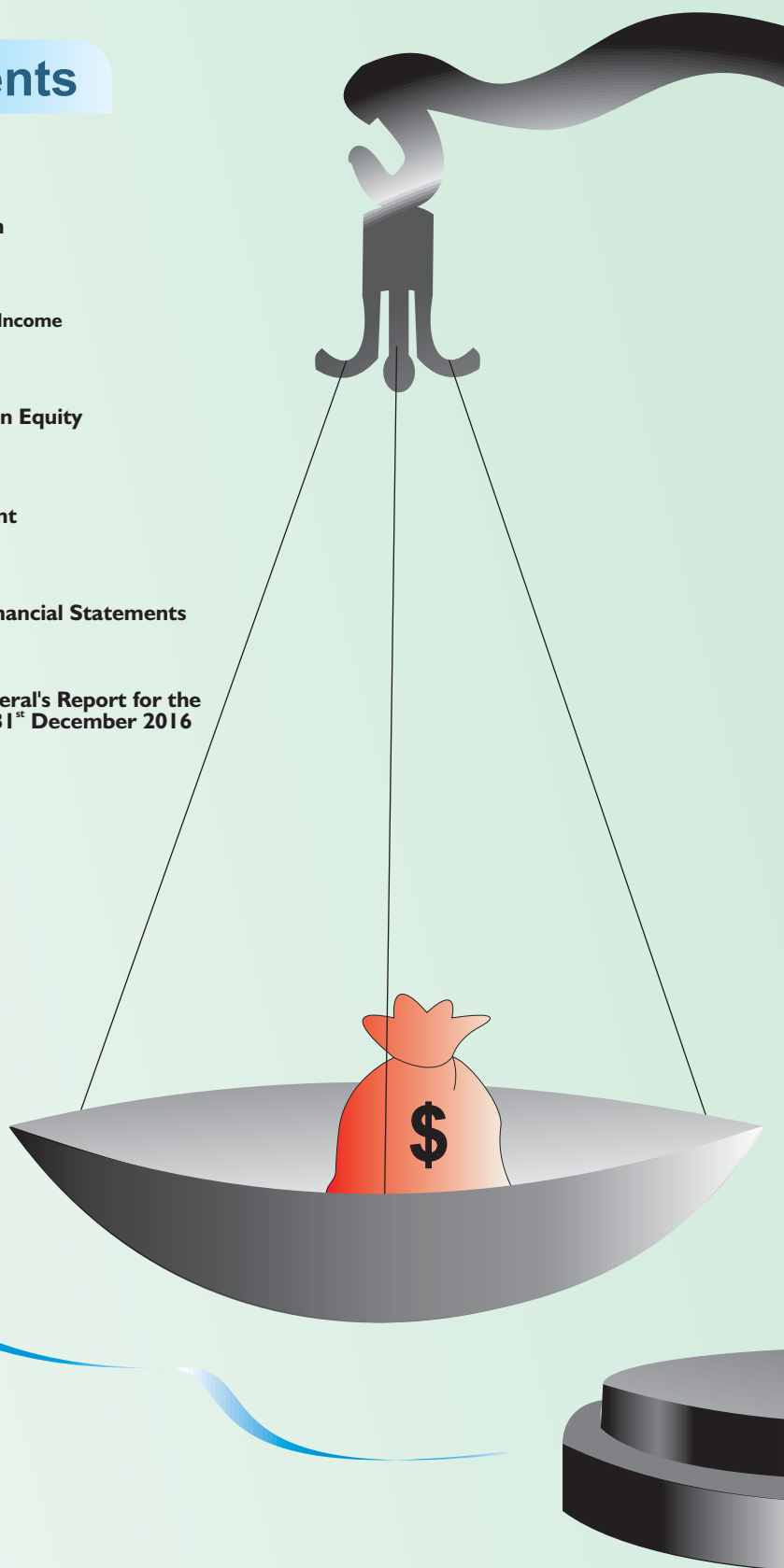
ix. COPE recommendations and Minutes of the COPE meeting No. 252 dated 7th April 2016.

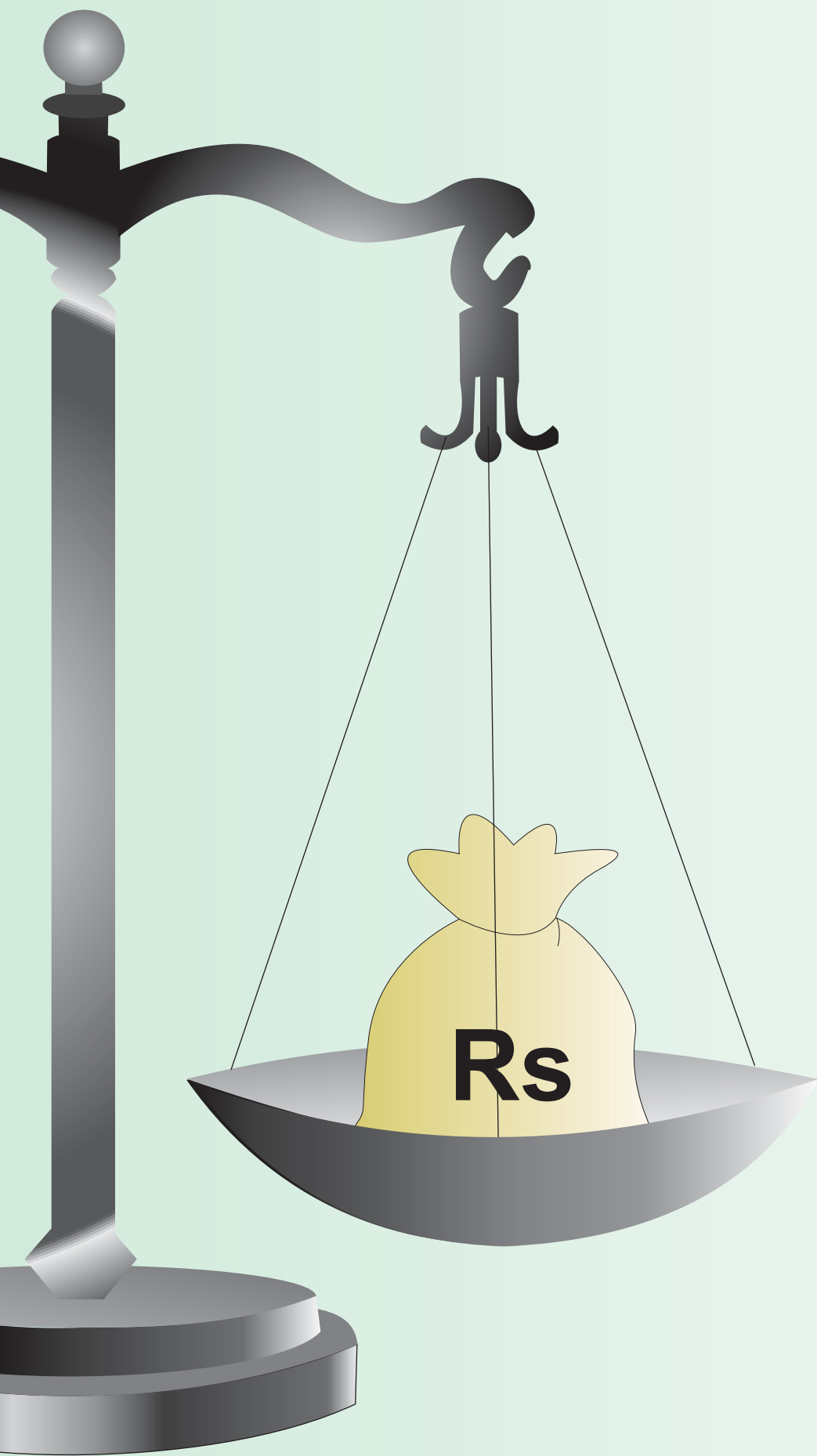
Every recommendation of the Audit and Management Committee was forwarded to the Board and some matters were discussed further at the Board meetings.



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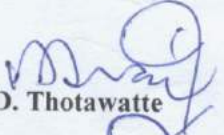


National Water Supply And Drainage Board

STATEMENT OF FINANCIAL POSITION

Year ended 31 December 2016

		2016 Rs.	2015 Rs. (Restated)
Assets			
Non- Current Assets	Notes		
Property ,Plant & Equipment	15	162,279,272,064	140,105,846,568
Intangible Assets	16	7,310,270	1,619,633
Capital Work in Progress	17	158,896,165,209	149,412,953,802
Financial assets	18	11,023,063	16,487,237
Total Non Current Assets		321,193,770,607	289,536,907,241
Current Assets			
Inventories	19	6,686,377,835	6,406,277,320
Trade & Other Receivables	20	6,659,799,411	6,034,674,947
Deposits & Advances	21	26,898,950,740	13,088,996,146
Investments	22	10,265,721,944	12,844,829,029
Cash & Cash Equivalents	23	12,097,670,911	3,876,918,395
Total Current Assets		62,608,520,842	42,251,695,838
Total Assets		383,802,291,451	331,788,603,080
Equity and Liabilities			
Equity			
Assets taken over from Government Dept.	24	185,480,387	185,480,387
Government Equity	25	68,810,126,839	63,736,423,921
Staff Welfare Fund	26	17,228,139	16,506,484
Retained Earnings		(9,462,770,056)	(11,847,217,278)
Government Grant	27	92,750,876,538	90,627,548,649
Capital Grants	28	181,792,825,672	165,736,880,359
Total Equity		334,093,767,519	308,455,622,521
Non-Current Liabilities			
Loan Payable	29	35,102,370,290	9,412,094,521
Other Deferred Liabilities	30	4,125,023,486	4,489,088,098
Total Non Current Liabilities		39,227,393,776	13,901,182,619
Current Liabilities			
Trade & Other Payables	31	9,855,307,852	9,431,797,940
Loan Capital Payable (Note 29)		625,822,304	-
Total Current Liabilities		10,481,130,156	9,431,797,940
Total Equity and Liabilities		383,802,291,451	331,788,603,080


D. Thotawatte
Addl.G.M.(Finance)


D.U.Sumanasekara
General Manager

The Accounting policies on pages 08 to 15 and Notes on pages 16 to 30 form an integral part of these Financial Statements. The Board of Directors is responsible for the preparation and presentation of these Financial Statements. These Financial Statements were approved by the Board of Directors and signed on their behalf


K. A. Ansar
Chairman


M.S.Rajabdeen
Vice chairman

Colombo

Amended on September 2017

National Water Supply And Drainage Board

STATEMENT OF COMPREHENSIVE INCOME

Year ended 31 December 2016

		Budget 2016 Rs.	Actual 2016 Rs.	Actual 2015 Rs. (Restated)
Revenue	7	22,004,495,400	23,584,727,487	20,252,452,471
Cost of Sales	8	(15,650,612,706)	(13,485,727,343)	(12,314,954,106)
Gross Profit		6,353,882,694	10,099,000,145	7,937,498,365
Other operating income and gains	9	1,187,864,600	1,477,546,705	1,073,728,427
Administrative Expenses	10	(10,893,276,294)	(9,139,288,219)	(8,505,524,577)
Other Operating Expenses	11	(590,000,000)	(680,664,041)	(540,121,046)
Operating Profit / (Loss)		(3,941,529,000)	1,756,594,590	(34,418,831)
Finance Income	12	750,000,000	1,236,278,724	1,186,883,970
Finance Cost	13	(6,837,000)	(3,281,535)	(2,866,777)
Profit / (Loss) before tax		(3,198,366,000)	2,989,591,779	1,149,598,362
Provision for Income Taxation	14	(60,000,000)	(63,287,387)	(53,881,978)
Profit / (Loss) for the Year		(3,258,366,000)	2,926,304,392	1,095,716,384

Accounting Policies & Notes from pages 8 to 30 form an integral part of these Financial Statements.

National Water Supply And Drainage Board

STATEMENT OF OTHER COMPREHENSIVE INCOME

Year ended 31 December 2016

	Budget 2016 Rs.	Actual 2016 Rs.	Actual 2015 Rs.
Profit / (Loss) for the Year	(3,258,366,000)	2,926,304,392	1,095,716,384
Other Comprehensive Income for the Year.			
Actuarial Loss on Defined Benefit Obligation.	-	-	(1,979,658,769)
Impairment loss on treasury bond	-	(541,135,514)	-
	(3,258,366,000)	(541,135,514)	(1,979,658,769)
Total Comprehensive Income for the Year	(3,258,366,000)	2,385,168,878	(883,942,385)

Accounting Policies & Notes from pages 8 to 30 form an integral part of these Financial Statements.



National Water Supply And Drainage Board STATEMENT OF CHANGES IN EQUITY

Year ended 31 December 2016

Note	Government Departments		Govt Grants	Government Equity	Capital grants	Staff Welfare Fund		Accumulated Profit/Loss		Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Balance as at 1 January 2015	185,480,387	88,161,757,133			151,974,122,319	15,239,298	(10,806,208,171)	229,530,390,966		
<i>Prior Year correction -</i>										
Assets recognised and derecognised	35.1						(176,470,304)	(176,470,304)		
Depreciation adju. for assets recognised and derecognised	35.1						107,225,254	107,225,254		
Derecognized long outstanding advances	35.2						(542,671)	(542,671)		
Rehabilitation & Construction works	35.2						(244,531,351)	(244,531,351)		
Derecognized foreign grant	35.2						219,422,130	219,422,130		
Derecognized local grant	35.2						813,209	813,209		
Correction of inventories and opening balances	35.2						1,544,484	1,544,484		
Derecognized advances	35.2						(6,838)	(6,838)		
Correction of bank balance	35.2						(733,339)	(733,339)		
Correction of VAT payable & Audit fee	35.2						(664,603)	(664,603)		
Correction of held to maturity	35.2						6,251,776	6,251,776		
Correction of amortization of intangible assets	35.2						(31,898,284)	(31,898,284)		
Restated balance as at 1 January 2015	185,480,387	88,161,757,133			151,974,122,319	15,239,298	(10,925,798,708)	229,410,800,429		
Net profit for the year								(883,942,385)		
Derecognized inventories							893,690	893,690		
Depreciation adju. for assets recognised and derecognised	35.2						(37,102,690)	(37,102,690)		
Receipts / Transfers during the year			3,355,961,700		12,872,587,856			16,228,549,555		
Loan to Equity conversion				49,836,439,996				49,836,439,996		
Government contribution through bond				13,899,983,925				13,899,983,925		
Transfers to Staff welfare fund						1,267,186	(1,267,186)			
Restated balance as at 31 December 2015	185,480,387	91,517,718,832		63,736,423,921	164,846,710,175	16,506,484	(11,847,217,278)	308,455,622,521		
Net profit for the year			2,216,825,457				2,385,168,878	2,385,168,878		
Receipts / Transfers during the year								2,216,825,457		
Loan to Equity conversion				5,073,702,918	15,962,447,745			21,036,150,663		
Transfers to Staff welfare fund						721,655	(721,655)			
Balances as at 31 December 2016	185,480,387	93,734,544,290		68,810,126,839	180,809,157,920	17,228,139	(9,462,770,056)	334,093,767,519		

Accounting Policies & Notes from pages 8 to 30 form an integral part of these Financial Statements.

National Water Supply And Drainage Board

STATEMENT OF CASH FLOW

Year ended 31 December 2016

For the year ended		2016	2015
	Notes	<u>Rs.</u>	<u>Rs.</u>
Cash Flows from/(used) in Operating Activities			
Net Profit/(Loss) before Tax		2,989,591,779	1,083,926,097
<i>Adjustments for</i>			
Interest Income	12	(1,236,278,724)	(1,186,119,227)
Profit on disposal of Fixed Assets		(13,600,051)	-
Depreciation	10.2	2,724,963,394	2,237,159,613
Retiring gratuity provision	29.1	394,618,174	391,422,596
Opening balance Adjustments			(733,339)
Interest Expense	13	<u>3,281,535</u>	<u>1,736,845</u>
Operating Profit before Working Capital Changes		4,862,576,106	2,527,392,585
(Increase)/Decrease in Inventories		(280,100,515)	(779,307,827)
(Increase)/Decrease in Debtors, Receivables & Deposits		(14,799,143,670)	(3,664,857,013)
Increase/(Decrease) in Creditors & Provisions		<u>423,509,912</u>	<u>2,351,534,289</u>
Cash Generated from Operations		(9,793,158,167)	434,762,033
Tax Paid		(63,287,387)	(39,677,127)
Gratuity Paid	11	<u>(394,618,174)</u>	<u>(391,422,596)</u>
Net Cash from Operating Activities		<u>(10,251,063,729)</u>	<u>3,662,309</u>
Cash Flows from/(used) in Investing Activities			
Investments in Fixed Assets & Work-In-Progress		(33,718,679,086)	(33,652,546,584)
Financial assets		5,464,174	6,323,440
Sale proceeds for disposal assets		27,083,204	-
Investment Income Received		1,236,278,724	1,186,119,227
(Investment) / Withdrawal of Investments		<u>2,037,971,571</u>	<u>(4,950,000,000)</u>
Net Cash Flows used in Investing Activities		<u>(30,411,881,414)</u>	<u>(37,410,103,918)</u>
Cash Flows from/(used in) Financing Activities			
Government Grant during the Period		2,123,327,889	2,709,730,350
Capital Grant during the period		17,040,060,639	14,518,201,341
New Loans		31,391,418,876	15,180,696,992
Loan Repayments		(896,230)	(498,375)
Interest Paid		(1,670,213,515)	(137,722,880)
Sales proceeds of treasury bond		-	6,256,433,925
		<u>48,883,697,659</u>	<u>38,526,841,354</u>
Net Increase in Cash & Cash Equivalents		8,220,752,516	1,120,399,745
Cash & Cash Equivalents at the beginning of the year		<u>3,876,918,395</u>	<u>2,756,518,649</u>
Cash & Cash Equivalents at the end of the period		<u><u>12,097,670,911</u></u>	<u><u>3,876,918,395</u></u>

The accounting policies and notes on Pages 8 through 30 Form an integral part of the financial statements.

NATIONAL WATER SUPPLY AND DRAINAGE BOARD
NOTES TO THE FINANCIAL STATEMENTS

31 DECEMBER 2016

CORPORATE INFORMATION

1.1 General

National Water Supply & Drainage Board is a statutory board enacted by the Parliament under the National Water Supply & Drainage Board Law No. 2 of 1974. The registered office of the Board is located at Galle Road, Ratmalana, and the principal place of business is situated at the same location.

National Water Supply & Drainage Board (NWS&DB) is an institution under the purview of Ministry of City Planning and Water Supply.

1.2 Principal activities

The principal activity of the Board is to produce and sell treated drinking water to the community.

The objectives of the National Water Supply & Drainage Board are to develop treated drinking water throughout the country and its accessibility among the people of Sri Lanka.

2. BASIS OF PREPARATION

2.1 Statement of Compliance

The Financial Statements have been prepared in accordance with Sri Lanka Accounting Standards (SLFRS/LKAS) as issued by The Institute of Chartered Accountants of Sri Lanka.

For all periods up to and including the year ended 31st December 2011, the NWS&DB prepared its Financial Statements in accordance with Sri Lanka Accounting Standards (SLAS). From the financial year ending 31st December 2012 onward Financial Statements are being prepared in accordance with the new Sri Lanka Accounting Standards (SLFRS/LKAS).

2.2 Basis of Measurement

The Financial Statements have been prepared on the historical cost basis except for financial instruments and other financial assets and liabilities held for trading that have been measured at fair value and liabilities for defined benefit obligation is recognized as at the present value of the defined benefit obligation.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

3.1 Property Plant and Equipment

Property, plant and equipment is stated at cost, net of accumulated depreciation and accumulated impairment losses, if any. Such cost includes the cost of replacing part of the property, plant and equipment and borrowing costs for long-term construction projects if the recognition criteria are met. When significant parts of property, plant and equipment are required to be replaced at intervals, NWS&DB recognises such parts as individual assets with specific useful lives and depreciates them accordingly. Likewise, when a major inspection is performed, its cost is recognised in the carrying amount of the plant and equipment as a replacement if the recognition criteria are satisfied. All other repair and maintenance costs are recognised in profit or loss as incurred.

The present value of the expected cost for the decommissioning of an asset after its use is included in the cost of the respective asset if the recognition criteria for a provision are met.

3.1.1 Depreciation

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets as follows:

Plant Property and Equipment	Rate
Building & Structures	1.67% - 2%
Plant & equipment pumping treatment	5%
Service & Bulk water meter	10%
Transmission & Distribution:	1.67%
Equipments	10%
Furniture & fittings	10%
Computers Peripherals & Mobile Phones	20% - 33.3%
Motor Vehicles	10% - 20%
Lease hold Vehicles	14.3%

3.1.2 Investment Property

When the use of a property changes from owner-occupied to another party is classified as Investment Property and the Investment Property is measured at cost less accumulated depreciation.

3.1.3 Capital Work In Progress

Capital expenses incurred during the year, which are not capitalized as at the reporting date are shown as capital work in progress, whilst the capital assets which have been capitalized during the year and put to use have been transferred to Property Plant & Equipment.

3.1.4 Leases

The determination of whether an arrangement is, or contains, a lease is based on the substance of the arrangement at the inception date, whether fulfillment of the arrangement is dependent on the use of a specific asset or the arrangement conveys a right to use the asset, even if that right is not explicitly specified in an arrangement.

3.1.5 Intangible Assets

Intangible assets acquired separately are measured on initial recognition at cost. Following initial recognition, intangible assets are carried at cost less accumulated amortization and accumulated impairment losses, if any. Internally generated intangible assets, excluding capitalized development costs, are not capitalized and expenditure is reflected in the income statement in the year in which the expenditure is incurred.

3.1.6 Research and development costs

Research costs are expensed as incurred. Development expenditures on an individual project are recognized as an intangible asset when NWS&DB can demonstrate:

- The technical feasibility of completing the intangible asset so that the asset will be available for use or sale
- Its intention to complete and its ability to use or sell the asset
- How the asset will generate future economic benefits
- The availability of resources to complete the asset
- The ability to measure reliably the expenditure during development

Following initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortization and accumulated impairment losses. Amortization of the asset begins when development is completed and the asset is available for use. It is amortized over the period of expected future benefit. During the period of development, the asset is tested for impairment annually.

3.1.7 Impairment of Non-Financial Assets

The NWS&DB assesses at each reporting date whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the NWS&DB estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's or cash-generating units (CGU) fair value less costs to sell and its value in use and is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. In determining fair value less costs to sell, recent market transactions are taken into account, if available. If no such transactions can be identified, an appropriate valuation model is used.

3.2.1 Inventories

Inventories are valued at cost or net realizable value whichever is lower after making due allowance for obsolete and slow moving items which are valued at 'First In First Out' basis. Net realizable value is the estimated selling price in the ordinary course of business, less estimated costs of completion and the estimated costs necessary to make the sale.

Measurement of inventories

3.2.2 Cost of Inventories

Raw Materials

Cost of purchases together with any incidental expenses.

Other Stocks

Cost is arrived at weighted average basis.

3.3. Cash and Cash Equivalents

Cash and cash equivalents comprise cash in hand and bank balances and short term investment, net of outstanding bank overdrafts if any

4. LIABILITIES, PROVISIONS AND EQUITY

4.1. Retirement Benefit Obligation

4.1.1 Retirement Benefit Obligations (LKAS 19)

a) Defined Benefit Plan – Gratuity

Provision has been made for retiring gratuity from the first year of service for all employees, in conformity with Sri Lanka Accounting Standard No. 19 (LKAS 19).

b) Retirement Benefit Cost

NWSDB operates a defined benefit pension plan. The cost of providing benefits under the defined benefit plan is determined using the projected unit credit method. Actuarial gains and losses for the defined benefit plan are recognized in full in the period in which they occur in other comprehensive income. Such actuarial gains and losses are also immediately recognized in retained earnings and are not reclassified to profit or loss in subsequent periods.

Unvested past service costs are recognized as an expense on a straight line basis over the average period until the benefits become vested. Past service costs are recognized immediately if the benefits have already vested immediately following the introduction of, or changes to, a pension plan.

The defined benefit asset or liability comprises the present value of the defined benefit obligation (using a discount rate based on high quality corporate bonds), less unrecognized past service costs and less the fair value of plan assets out of which the obligations are to be settled.

Defined Contribution Plans- EPF & ETF

Employees are eligible for Employees' Provident Fund Contributions and Employees' Trust Fund Contributions in line with respective Statutes and Regulations. The Board contributes 12% and 3% of gross emoluments of employees to EPF and ETF respectively.

4.2 Provisions

General

Provisions are recognized when NWS&DB has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. When NWS&DB expects some or all of a provision to be reimbursed, for example, under an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is virtually certain. The expense relating to a provision is presented in the income statement net of any reimbursement.

4.3 Government Grants

Government grants are recognised where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. When the grant relates to an expense item, it is recognised as income on a systematic basis over the periods that the costs, which it is intended to compensate, are expensed. When the grant relates to an asset, it is recognised as income in equal amounts over the expected useful life of the related asset.

When NWS&DB receives non-monetary grants, the asset and the grant are recorded at nominal amounts and released to profit or loss over the expected useful life in a pattern of consumption of the benefit of the underlying asset by equal annual installments. When loans or similar assistance are provided by governments or related institutions, with an interest rate below the current applicable market rate, the effect of this favorable interest is regarded as a government grant.

5. INCOME STATEMENT

For the purpose of presentation of the Income Statement, the function of expenses method is adopted, as it represents fairly the elements of NWS&DB performance.

5.1.1 Revenue Recognition

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the NWS&DB and the revenue can be reliably measured, regardless of when the payment is being made. Revenue is measured at the fair value of the consideration received or receivable taking into account contractually defined terms of payment.

The following specific recognition criteria must also be met before revenue is recognized.

Sale of goods

Revenue from the sale of goods is recognised when the significant risks and rewards of ownership of the goods have passed to the buyer, usually on delivery of the goods.

Sale of Water

Revenue from sale of water is recognised according to the number of consumed unit within 30 days of time by the consumer, when the meters are read and when bills are processed within the system.

Other Income

Other income is recognised on an accrual basis.

Interest income

For all financial instruments measured at amortized cost and interest bearing financial assets classified as available for sale, interest income or expense is recorded using the effective interest rate (EIR), which is the rate that exactly discounts the estimated future cash payments or receipts through the expected life of the financial instrument or a shorter period, where appropriate, to the net carrying amount of the financial asset or liability. Interest income is included in finance income in the income statement.

Rechargeable Works

Revenue from fixed price construction contracts is recognized on the percentage of completion method, measured by the work done of the contract.

5.1.2 Expenses

All expenditures incurred in the running of the business have been charged to income in arriving at the profit for the year. Repairs and renewals are charged to profit and loss in the year in which the expenditure is incurred.

5.2 Deferred tax

Deferred tax is provided using the liability method on temporary differences between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes at the reporting date. Deferred tax liabilities are recognised for all taxable temporary differences, except:

When the deferred tax liability arises from the initial recognition of goodwill or an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.

Deferred tax assets are recognised for all deductible temporary differences, carry forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences, and the carry forward of unused tax credits and unused tax losses can be utilised, except:

When the deferred tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss.

In respect of deductible temporary differences associated with investments in subsidiaries, associates and interests in joint ventures, deferred tax assets are recognised only to the extent that it is probable that the temporary differences will reverse in the foreseeable future and taxable profit will be available against which the temporary differences can be utilized.

The carrying amount of deferred tax assets is reviewed at each reporting date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised. Unrecognised deferred tax assets are reassessed at each reporting date and are recognised to the extent that it has become probable that future taxable profits will allow the deferred tax asset to be recovered. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date.

Deferred tax relating to items recognised outside profit or loss is recognised outside profit or loss. Deferred tax items are recognised in correlation to the underlying transaction either in other comprehensive income or directly in equity. Deferred tax assets and deferred tax liabilities are offset if a legally enforceable right exists to set off current tax assets against current income tax liabilities and the deferred taxes relate to the same taxable entity and the same taxation authority.

6. FINANCIAL INSTRUMENTS- INITIAL RECOGNITION AND SUBSEQUENT MEASUREMENT

6.1 Financial asset

6.1.1 Initial recognition and measurement

Financial assets within the scope of LKAS 39 are classified as financial assets at fair value through profit or loss, loans and receivables, held-to-maturity investments and available-for-sale financial assets, as appropriate and determine the classification of its financial assets at initial recognition.

All financial assets are recognized initially at fair value plus, in the case of assets not at fair value through profit or loss, directly attributable transaction costs.

The financial assets of NWS&DB include cash and short term investment, trade and other receivables, staff loans and other receivables.

6.1.2 Subsequent measurement

The subsequent measurement of financial assets depends on their classification as follows

6.1.2.1 Financial assets at fair value through profit or loss

Financial assets at fair value through profit or loss include financial assets held for trading and financial assets designated upon initial recognition at fair value through profit or loss. Financial assets are classified as held for trading if they are acquired for the purpose of selling or repurchasing in the near term. NWS&DB did not have any financial assets at fair value through profit or loss during the years ended 31 December 2015 and 2016.

6.1.2.2 Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. After initial measurement, such financial assets are subsequently measured at amortized cost using the effective interest rate method (EIR), less impairment. Amortized cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortization is included in finance income in the income statement.

6.1.2.3 Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed maturities are classified as held to-maturity when the NWS&DB has the positive intention and ability to hold it to maturity. After initial measurement, held-to-maturity investments are measured at amortised cost using the effective interest method, less impairment. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in finance income in the income statement. The losses arising from impairment are recognised as finance cost in the income statement in finance cost.

6.1.2.4 Available-for-sale financial investments

Available-for-sale financial investments include equity and debt securities. Equity investments classified as available for- sale are those, which are neither classified as held for trading nor designated at fair value through profit or loss. Debt securities in this category are those which are intended to be held for an indefinite period of time and which may be sold in response to needs for liquidity or in response to changes in the market conditions.

After initial measurement, available-for-sale financial investments are subsequently measured at fair value with unrealized gains or losses recognised as other comprehensive income in the available-for-sale reserve until the investment is derecognized.

6.1.2.5 Derecognition

A financial asset (or, where applicable a part of a financial asset or part of a group of similar financial assets) is derecognized when,

- i) The rights to receive cash flows from the asset have expired
- ii) NWS&DB has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a 'pass-through' arrangement; and either
 - (a) NWS&DB has transferred substantially all the risks and rewards of the asset, or
 - (b) NWS&DB has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

6.1.2.6 Impairment of financial assets

The NWS&DB assesses at each reporting date whether there is any objective evidence that a financial asset or a group of financial assets is impaired. A financial asset or a group of financial assets is deemed to be impaired if, and only if, there is objective evidence of impairment as a result of one or more events that has occurred after the initial recognition of the asset and that loss event has an impact on the estimated future cash flows of the financial asset or the group of financial assets that can be reliably estimated.

Evidence of impairment may include indications that the debtors or a group of debtors is experiencing significant financial difficulty, default or delinquency, the probability that they will enter bankruptcy or other financial reorganization and where observable data indicate that there is a measurable decrease in the estimated future cash flows, such as changes in arrears or economic conditions that correlate with defaults.

6.1.2.7 Financial assets carried at amortized cost

For financial assets carried at amortized cost, the NWS&DB first assesses whether objective evidence of impairment exists individually for financial assets that are individually significant, or collectively for financial assets that are not individually significant. If the NWS&DB determines that no objective evidence of impairment exists for an individually assessed financial asset, whether significant or not, it includes the asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for impairment. Assets that are individually assessed for impairment and for which an impairment loss is, or continues to be, recognised are not included in a collective assessment of impairment.

If there is objective evidence that an impairment loss has been incurred, the amount of the loss is measured as the difference between the assets carrying amount and the present value of estimated future cash flows (excluding

future expected credit losses that have not yet been incurred). The present value of the estimated future cash flows is discounted at the financial asset's original effective interest rate.

The NWS&DB performed specific impairment for each debtor categories during the year 2016

6.2 Financial Liabilities

Initial recognition and measurement

Financial liabilities within the scope of LKAS 39 are classified as financial liabilities at fair value through profit or loss, at amortised cost, or as derivatives designated as hedging instruments in an effective hedge, as appropriate. NWS&DB determines the classification of its financial liabilities at initial recognition.

All financial liabilities are recognised initially at fair value and, in the case of loans and borrowings, carried at amortised cost. This includes directly attributable transaction costs. NWS&DB's financial liabilities include trade and other payables.

Subsequent measurement

Subsequent measurement of financial liabilities is at amortised cost.

Derecognition

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires.

National Water Supply And Drainage Board
NOTES TO THE FINANCIAL STATEMENTS
Year ended 31 December 2016

	2016 Rs.	2015 Rs.
7. REVENUE		
Metered Sales	20,991,185,049	18,102,363,486
Bulk Sales	238,030,488	204,211,966
Bowser Supply	88,515,542	66,967,315
Income from main operations	7.1 <u>2,266,996,408</u>	<u>1,878,909,704</u>
	<u>23,584,727,487</u>	<u>20,252,452,471</u>
7.1 Income from main operations		
Income related to New connection and other main operations	2,628,868,117	2,185,668,708
Capital Recovery Charges	766,302,051	668,431,101
Expense related to New connection	<u>(1,128,173,760)</u>	<u>(975,190,105)</u>
	<u>2,266,996,408</u>	<u>1,878,909,704</u>
8. COST OF SALES		
Personnel Cost	6,215,488,662	5,824,762,465
Pumping Cost	3,833,788,962	3,511,913,535
Chemicals	692,354,529	601,539,437
Repairs & Maintenance	1,270,587,139	1,046,395,799
Establishment Expenses	473,717,459	432,157,560
Rent, Rates, Taxes, Security & Other Expenses	908,910,549	782,394,641
Rebates	<u>90,880,043</u>	<u>115,790,669</u>
	<u>13,485,727,343</u>	<u>12,314,954,106</u>
9. OTHER OPERATING INCOME		
Other Income	9.1 1,428,167,676	1,037,111,108
Staff loan benefit	<u>49,379,029</u>	<u>36,617,319</u>
	<u>1,477,546,705</u>	<u>1,073,728,427</u>
9.1 Other Income		
Sewerage and ground water income	280,748,461	183,051,005
Surcharge, penalties etc.	<u>1,147,419,215</u>	<u>854,060,103</u>
	<u>1,428,167,676</u>	<u>1,037,111,108</u>

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

		2016 Rs.	2015 Rs.
10. ADMINISTRATIVE EXPENSES			
Repairs & Maintenance		218,910,020	179,200,602
Establishment Expenses		635,852,111	586,981,952
Rent,Rates,Taxes, Security & Other Expenses		359,067,735	257,943,106
Staff Cost	10.1	5,197,383,263	5,310,276,758
Depreciation	10.2	2,724,963,394	2,168,158,639
Audit Fee-AGDSL including continuous audit		3,111,696	2,963,520
		<u>9,139,288,219</u>	<u>8,505,524,577</u>
10.1 Staff cost			
Staff Cost on Loan Granted		49,379,029	36,617,319
Personnel Cost		5,148,004,234	5,273,659,439
		<u>5,197,383,263</u>	<u>5,310,276,758</u>
10.2 Depreciation			
Building and structure		948,013,836	747,962,228
Plant & Machinery		1,193,507,435	862,995,349
Equipments		1,333,925,122	1,110,831,372
Furniture and Fittings		39,508,591	30,624,548
Computers & Periparels		53,439,105	69,851,973
Motor Vehicles		147,096,922	105,593,861
		<u>3,715,491,011</u>	<u>2,927,859,332</u>
Less: Depn. for Grant funded Assets		(999,478,284)	(773,396,579)
Less: Depn. for Rechargeable funded Assets		(7,292,317)	(2,547,097)
Add: Amortization of leased Assets (Restated)		15,949,142	15,949,142
Add: Amortization of Intangible Assets		293,841	293,841
		<u>2,724,963,394</u>	<u>2,168,158,639</u>
	-		
11. OTHER OPERATING EXPENSES			
Bad & Doubtful Debts		125,257,676	90,254,064
Provision for Irrecoverable Staff Loans		2,472,380	2,537,470
Provision for Obsolete Stock		22,459,422	(20,344,015)
Retiring Gratuity		394,618,174	391,422,596
Revenue grant		135,856,389	76,250,931
		<u>680,664,041</u>	<u>540,121,046</u>
12. FINANCE INCOME			
Investment Income		1,236,278,724	1,186,883,970
		<u>1,236,278,724</u>	<u>1,186,119,227</u>
13. FINANCE COST			
Interest On Loans	35.2	1,670,213,515	138,852,812
Less: Capitalised Interest on Construction Projects		(1,666,931,980)	(135,986,035)
		<u>3,281,535</u>	<u>2,866,777</u>
14. TAXATION			
Economic Service Charge		63,287,387	53,881,978
		<u>63,287,387</u>	<u>53,881,978</u>

National Water Supply And Drainage Board
NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

15. PROPERTY, PLANT AND EQUIPMENT

15.1 Gross Carrying Amounts	Restated Balance As at 01.01.2016	Additions after Adjustments	Transfers	Disposals	Balance As at 31.12.2016
Cost	Rs.	Rs.	Rs.	Rs.	Rs.
Land Freehold	8,324,520,628	150,961,687	(117,172,310)		8,358,310,005
Land Leasehold	589,990,351	1,670,000	(2,120,000)		589,540,351
Infrastructure	5,303,935,498	577,519,147	(167,475,138)		5,713,979,507
Building - Freehold	9,760,298,657	1,706,956,830	(360,690,029)		11,106,565,457
Structures	37,879,021,763	5,447,871,038	(120,441,426)		43,206,451,374
Plant & eq: pumping treatment	23,788,288,249	4,282,530,893	176,142,379		28,246,961,522
Service meter	18,724,254	3,143,323	(2,428,000)		19,439,577
Bulk water meter	454,760,093	64,436,369	(18,336)		519,178,126
Transmission & Distribution	63,698,398,498	13,010,221,768	486,987		76,709,107,252
Mobile Equipments	374,525,729	93,370,382	(17,225,703)		450,670,409
Survey Equipments	25,412,931	7,172,900	150,000		32,735,831
Laboratory Equipments	497,385,727	93,728,864	(5,416,991)		585,697,600
Other Equipment	1,438,299,686	663,625,285	(41,149,818)		2,060,775,152
Furniture & fittings-computer	390,055,029	132,057,040	(48,509,686)		473,602,383
Computers & Periparels	406,714,922	67,591,739	(41,386,182)		432,920,480
Motor vehicles cars	166,230,177	78,522,257	(79,618,250)	(8,290,000)	156,844,184
Van busses & jeeps	425,946,018	223,737,869	(107,262,405)	(8,265,000)	534,156,481
Lorries & trucks	1,482,559,727	702,014,158	(194,551,075)	(10,975,000)	1,979,047,810
Tractors & trailers	84,076,211	13,396,535	(7,296,535)	(1,100,000)	89,076,211
Water bowsers, Heavy veh:	903,527,677	350,670,713	(120,535,258)	(7,500,000)	1,126,163,133
Motor cycles	22,481,868	3,332,298	(1,284,300)	(1,102,715)	23,427,152
Three Weelers	1,787,620	3,000,000	-	-	4,787,620
Lease hold Vehicles	28,975,000	-	-	-	28,975,000
Total Value of Depreciable Assets	156,065,916,314	27,677,531,094	(1,257,802,077)	(37,232,715)	182,448,412,617

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

15.2 Depreciation	Restated Balance As at 01.01.2016 Rs.	Charge for the Period Rs.	Adjustments Rs.	Disposal Rs.	Balance As at 31.12.2016 Rs.
Depreciation					
Freehold Assets					
Land Freehold					-
Land Leasehold					-
Infrastructure	454,847,936	100,337,495	20,755,596		575,941,027
Building - Freehold	954,535,660	200,071,834	796,112		1,155,403,606
Structures	2,816,345,600	647,604,507	222,947,939		3,686,898,046
Plant & eq: pumping treatment	4,320,315,641	1,145,707,010	204,588,291		5,670,610,943
Service meter	2,527,821	1,824,867	9,956,728		14,309,417
Bulk water meter	97,063,120	45,975,557	-		143,038,676
Transmission & Dist:	4,928,273,611	1,075,001,244	50,165,491		6,053,440,346
Mobile Equipments	137,747,282	36,482,438	208,173		174,437,893
Survey Equipments	4,574,440	2,728,685	54,379		7,357,504
Laboratory Equipments	200,218,868	52,711,497	12,664,449		265,594,813
Other Equipment	516,604,703	167,001,259	1,069,611		684,675,572
Furniture & fittings-computer	186,338,752	39,508,591	(4,380,412)		221,466,931
Computers & Peripherals	279,400,671	53,439,105	1,913,778		334,753,554
Motor vehicles cars	117,203,770	11,164,124	20,526,429	(7,857,020)	141,037,303
Van busses & jeeps	341,159,567	8,539,906	(271,700)	(6,664,250)	342,763,523
Lorries & trucks	343,001,382	68,061,023	(3,145,611)	(5,226,187)	402,690,607
Tractors & trailers	49,628,401	8,030,352	1,133,133	(940,500)	57,851,386
Water bowsers, Heavy veh:	179,479,841	45,598,522	(1,156,451)	(2,140,073)	221,781,839
Motor cycles	8,286,605	1,823,712	62,421	(921,532)	9,251,206
Three Wheelers	611,434	173,399	-	-	784,833
Lease hold Vehicles	21,904,640	3,705,886	(20,559,000)	-	5,051,526
	<u>15,960,069,746</u>	<u>3,715,491,011</u>	<u>517,329,356</u>	<u>(23,749,562)</u>	<u>20,169,140,551</u>

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

15. PROPERTY, PLANT AND EQUIPMENT (Contd...)

15.3 Net Book Values	2016 Rs.	2015 Rs.
At Cost		
Land Freehold	8,358,310,005	8,324,520,628
Land Leasehold	589,540,351	589,990,351
Infrastructure	5,138,038,479	4,849,087,562
Building - Freehold	9,951,161,851	8,805,762,997
Structures	39,519,553,329	35,062,676,163
Plant & Eq: pumping treatment	22,576,350,580	19,467,972,608
Service meter	5,130,160	16,196,433
Bulk water meter	376,139,450	357,696,973
Transmission & Distribution	70,655,666,906	58,770,124,887
Mobile Equipments	276,232,515	236,778,447
Survey Equipments	25,378,327	20,838,492
Laboratory Equipments	320,102,787	297,166,859
Other Equipments	1,376,099,581	921,694,983
Furniture & fittings-computer	252,135,452	203,716,277
Computers & Periparels	98,166,925	127,314,251
Motor vehicles cars	15,806,882	49,026,407
Van busses & jeeps	191,392,958	84,786,450
Lorries & trucks	1,576,357,201	1,139,558,344
Tractors & trailers	31,224,825	34,447,810
Water bowsers, Heavy veh:	904,381,293	724,047,836
Motor cycles	14,175,945	14,195,263
Three Wheelers	4,002,787	1,176,186
Lease hold Vehicles	23,923,474	7,070,360
Total Carrying Amount of Property, Plant & Equipment	162,279,272,064	140,105,846,568

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

15. PROPERTY, PLANT AND EQUIPMENT

15.4 Investment Property

The Building constructed by the Board at Sunil Mawatha, Battaramulla currently occupied by the Ministry of City Planning and Water Supply is recognized as Investment Property according to the LKAS 40 - Investment Property.

This Investment Property is included under the Property, Plant & Equipment

	Land	Building	Total
Cost			
Balance as at 31.12.2016	138,500,000	238,053,034	376,553,034
Depreciation			
Balance as at 01.01.2016	-	19,727,050	19,727,050
Charge for the Period	-	4,761,061	4,761,061
Balance as at 31.12.2016	-	24,488,110	24,488,110
Net Book Value	138,500,000	213,564,924	352,064,924

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

		2016 Rs.	2015 Rs.
16. INTANGIBLE ASSETS			
Computer Software		<u>7,310,270</u>	<u>1,619,633</u>
		<u>7,310,270</u>	<u>1,619,633</u>
During the year Rs 1,335,127 has been provided for amortization for above software.			
17. CAPITAL WORK IN PROGRESS			
Construction Work	35.2	155,229,972,659	144,212,075,854
Rehabilitation	35.2	<u>3,666,192,550</u>	<u>5,200,877,948</u>
		<u>158,896,165,209</u>	<u>149,412,953,802</u>
18. FINANCIAL ASSETS			
HDFC Investment for Staff Housing Loans		9,810,535	15,322,302
Bank of Ceylon Saving - II		<u>1,212,528</u>	<u>1,164,935</u>
		<u>11,023,063</u>	<u>16,487,237</u>
19. INVENTORIES			
PVC Steel Pipe		3,793,823,910	3,392,095,366
Water Meter & Fitting & Brass Items		568,961,667	743,331,981
Chemical Material		122,602,755	117,617,218
Electricals		477,733,511	382,799,033
Building Material		31,037,997	49,937,381
Pump & Spare Parts		934,006,921	903,040,106
Vehicle Spare Parts		108,321,976	83,096,233
Stationary & Office Equipment		44,572,040	44,692,449
Other Items		507,209,517	420,441,774
Stock in Transit	35.2	443,569,646	560,028,604
Stock Adjustments		<u>2,555,749</u>	<u>2,651,389</u>
		<u>7,034,395,689</u>	<u>6,699,731,535</u>
Less- Major spares			
Property Plant and Equipment at Stores		(293,154,819)	(261,050,602)
Provision for Obsolete Stock		<u>(54,863,035)</u>	<u>(32,403,613)</u>
		<u>6,686,377,835</u>	<u>6,406,277,320</u>

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

		2016 Rs.	2015 Rs.
20. TRADE AND OTHER RECEIVABLES			
Trade Debtors		4,607,789,723	3,895,171,826
Other Debtors		302,907,898	345,086,098
Less : Debtors Impairment		(1,322,209,166)	(1,197,441,625)
Debtors Collection Control		591,158,421	453,509,342
VAT Receivable		331,450,527	378,901,522
WHT Receivable		46,931,199	34,144,822
Advances to Staff	35.2	15,624,539	32,660,720
Loans To Employees		1,713,412,289	1,788,580,352
Receivable on Interest & Others		372,733,981	304,061,890
		<u>6,659,799,411</u>	<u>6,034,674,947</u>
21. DEPOSITS AND ADVANCES			
Rechargeable Project Work		114,010	90,578
Pre Payments		4,539,500	1,253,500
Mobilization and Other Advances	35.2	26,659,765,475	13,005,663,835
Deposits		234,531,755	81,988,233
		<u>26,898,950,740</u>	<u>13,088,996,146</u>
22. INVESTMENTS			
Available for Sale-Treasury Bond	7,643,550,000		
Less-Provision for Impairment	(834,864,839)	6,808,685,161	7,643,550,000
Held to Maturity	35.2	3,457,036,783	5,201,279,029
		<u>10,265,721,944</u>	<u>12,844,829,029</u>
23. CASH AND CASH EQUIVALENTS			
Cash In Bank	35.2	1,869,822,259	2,316,830,961
Cash Received for a Capital Project		6,529,848,750	-
Cash Imprest Head Office		2,363,785	1,290,751
Cash Imprests Regions		3,850,690	3,473,591
Cash In Transit		344,259,084	294,470,231
Call Deposits		3,108,519,601	968,700,192
Savings Account		239,006,742	292,152,669
		<u>12,097,670,911</u>	<u>3,876,918,395</u>
24. ASSETS TAKEN OVER FROM GOVERNMENT			
Assets taken over from Government Dept.		185,480,387	185,480,387
		<u>185,480,387</u>	<u>185,480,387</u>
25. Government Equity			
Equity loan conversion		54,910,142,914	49,836,439,996
Government contribution (bond)		13,899,983,925	13,899,983,925
		<u>68,810,126,839</u>	<u>63,736,423,921</u>

Policy decision has been taken by government of Sri Lanka to transfer current year foreign funded loan receipts to NWSDB to equity.

National Water Supply And Drainage Board
NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

		2016 Rs.	2015 Rs.
26. STAFF WELFARE FUND			
Opening Balance		16,506,484	15,239,298
Received during the year		<u>721,655</u>	<u>1,267,186</u>
		<u>17,228,139</u>	<u>16,506,484</u>
27. GOVERNMENT GRANT			
Tresuary Grant		<u>92,750,876,538</u>	<u>90,627,548,649</u>
		<u>92,750,876,538</u>	<u>90,627,548,649</u>
28. CAPITAL GRANTS			
Foreign Grants	35.2	180,809,157,920	164,846,710,175
Local Grants	35.2	<u>983,667,752</u>	<u>890,170,183</u>
		<u>181,792,825,672</u>	<u>165,736,880,359</u>
29. LOAN PAYABLE			
Foreign Loans through Treasury		15,335,301,002	-
Local Loans		<u>20,392,891,592</u>	<u>9,412,094,521</u>
		<u>35,728,192,594</u>	<u>9,412,094,521</u>
Current portion loan payable		<u>625,822,304</u>	
Long term portion of loanpayable		<u>35,102,370,290</u>	
30. OTHER DEFERRED LIABILITIES			
Provision for defined benefit plan	29.1	4,076,428,515	4,076,428,515
Customer and Employee Security Deposits		48,594,971	118,930,258
Treasury Bond discount received in advance		-	293,729,325
		<u>4,125,023,486</u>	<u>4,489,088,098</u>
30.1 Movement of Retiring Gratuity Provision			
Balance at the Beginning of the Period		4,076,428,515	2,096,769,746
Add Provision for the Period		394,618,174	2,371,081,365
Less: Gratuity Payments during the Period		<u>(394,618,174)</u>	<u>(391,422,596)</u>
		<u>4,076,428,515</u>	<u>4,076,428,515</u>
31. TRADE AND OTHER PAYABLES			
Rechargeable Work - Customer Advances		4,039,297,939	3,013,472,388
Contractors Retention		3,666,057,746	3,497,975,058
Lease Hold Creditors		26,164,355	33,822,215
Less: Interest in Suspense		(4,382,302)	(8,413,409)
Creditors Control		1,247,126,354	1,418,387,592
Other Creditors		101,480,705	94,752,654
Accrued expenses		504,823,198	861,687,410
Deposits		72,954,077	101,391,187
VAT Payable	35.2	-	216,903,937
With Holding Tax		54,667	2,972,264
Salaries and Other Payables		184,565,497	183,662,792
Interest Payable on Lease	35.2	-	1,129,932
Audit fee AGDSL	35.2	<u>17,165,616</u>	<u>14,053,920</u>
		<u>9,855,307,852</u>	<u>9,431,797,940</u>

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

32. DEFERRED TAXATION

Deferred Tax Assets, Liabilities and Income Tax relates to the followings

	Balance Sheet		Income Statement	
	2016	2015	2016	2015
	Rs.	Rs.	Rs.	Rs.
Deferred Tax Liability				
Capital Allowances	8,303,259,328	10,232,612,468	2,724,963,394	2,103,018,287
Intangible assets	293,841	453,497	(1,335,127)	(14,376,428)
	<u>8,303,553,169</u>	<u>10,233,065,965</u>	<u>2,723,628,267</u>	<u>2,088,641,859</u>
Deferred Tax Assets				
Debtors Impairment	124,767,541	298,860,427	12,476,754	19,948,692
	<u>124,767,541</u>	<u>298,860,427</u>		
Deferred income tax charge/(reversal)			<u>2,736,105,021</u>	<u>2,108,590,551</u>
Net Deferred Tax Liability/ (Asset)	<u>8,178,785,629</u>	<u>9,934,205,538</u>		

The existence of unused tax losses is strong evidence that future taxable profit may not be available. NWSDB has a cumulative tax loss of Rs 72,526,471,421 as at 31/12/2016. Therefore paying Income Tax by NWSDB is very unlikely, resulting in not recognising a net deferred tax asset /liability.

33. RELATED PARTY TRANSACTIONS

Transactions with State and State Controlled Entities

In the normal course of its operations, the Board enters into transactions with related parties. Related parties include the Government of Sri Lanka (State: as the ultimate owner of the Board), various government departments, and State controlled entities. Particulars of transactions, and arrangements entered into by the Board with the State and State controlled entities which are individually significant and for other transactions that are collectively, but not individually significant.

34. EVENTS AFTER THE BALANCE SHEET DATE

All the material events after the balance sheet date have been considered and appropriate adjustment and disclosures have been made in to the financial statement, where necessary.



National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

35. PRIOR YEAR ADJUSTMENTS

- 35.1 Board assets were revalued as at 31.12.2007 by obtaining the service of Department of Valuation. Revalued amount of assets were taken to the books during the year 2010 and those values are continuing as deemed cost of PPE at present. There were some duplications and omissions occurred in 2010 due to the immensity of the assets base and have been rectified as prior year adjustments with retrospective effect. Accordingly net effect of Rs. 176.5 million had been adjusted for carrying amount of PPE and Rs.107.2 million had been adjusted for depreciation as at 31.12.2015 as follows. In addition to this Rs 37 million depreciation have been adjusted in year 2015.

35.1.1 Gross Carrying Amounts

Cost	Balance As at 31.12.2015 Rs.	Prior Year Adjustments Rs.	Restated Balance As at 31.12.2015 Rs.
Freehold Assets			
Land Freehold	8,324,867,378	(346,750)	8,324,520,628
Land Leasehold	589,990,351		589,990,351
Infrastructure	5,347,435,498	(43,500,000)	5,303,935,498
Building - Freehold	9,765,531,157	(5,232,500)	9,760,298,657
Structures	38,146,967,263	(267,945,500)	37,879,021,763
Plant & eq: pumping treatment	23,788,294,540	(6,290)	23,788,288,249
Service meter	18,724,254	-	18,724,254
Bulk water meter	454,760,093	-	454,760,093
Transmission & Dist:	63,698,398,498	-	63,698,398,498
Mobile Eq:	374,570,868	(45,139)	374,525,729
Survey Eq:	25,412,931	-	25,412,931
Laboratory	498,235,285	(849,558)	497,385,727
Other Equipment	1,438,581,332	(281,646)	1,438,299,686
Furniture & fittings-computer	390,769,462	(714,433)	390,055,029
Computers & Periparels	408,043,848	(1,328,926)	406,714,922
Motor vehicles cars	157,608,566	8,621,611	166,230,177
Van busses & jeeps	371,276,016	54,670,002	425,946,018
Lorries & trucks	1,404,858,756	77,700,970	1,482,559,727
Tractors & trailers	83,051,746	1,024,465	84,076,211
Water bowsers, Heavy veh:	905,242,049	(1,714,371)	903,527,677
Motor cycles	19,004,107	3,477,761	22,481,868
Three Weelers	1,787,620	-	1,787,620
Lease hold Vehicles	28,975,000	-	28,975,000
Total Value of Depreciable Asset	156,242,386,618	(176,470,304)	156,065,916,314

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

35.1.2 Depreciation	Balance	Prior Year	Restated Balance
	As at	Adjustments	As at
Freehold Assets	31.12.2015		31.12.2015
	Rs.	Rs.	Rs.
Land Freehold	-	-	-
Land Leasehold	-	-	-
Infrastructure	462,397,136	(7,549,200)	454,847,936
Building - Freehold	954,587,326	(51,666)	954,535,660
Structures	2,851,654,410	(35,308,810)	2,816,345,600
Plant & eq: pumping treatment	4,367,517,700	(47,202,059)	4,320,315,641
Service meter	2,527,821	-	2,527,821
Bulk water meter	97,063,120	-	97,063,120
Transmission & Dist:	4,928,273,611	-	4,928,273,611
Mobile Eq:	137,747,282	-	137,747,282
Survey Eq:	4,574,440	-	4,574,440
Laboratory	200,704,459	(485,591)	200,218,868
Other Equipment	521,549,659	(4,944,956)	516,604,703
Furniture & fittings-computer	188,233,944	(1,895,192)	186,338,752
Computers & Periparels	279,400,671	-	279,400,671
Motor vehicles cars	118,159,199	(955,429)	117,203,770
Van busses & jeeps	342,924,667	(1,765,100)	341,159,567
Lorries & trucks	339,008,784	3,992,598	343,001,382
Tractors & trailers	50,150,782	(522,381)	49,628,401
Water bowsers, Heavy veh:	190,036,214	(10,556,373)	179,479,841
Motor cycles	8,267,700	18,905	8,286,605
Three Wheelers	611,434	-	611,434
Lease hold Vehicles	21,904,640	-	21,904,640
Total Value of Depreciation	16,067,294,999	(107,225,254)	15,960,069,746

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

35.2 In addition to the prior year adjustments for Property Plant & Equipments, the following items also have been adjusted retrospectively.

	Balance As at 31.12.2015 Rs.	Prior Year Adjustments Rs.	Adjustment For 2015	Restated Balance As at 31.12.2015 Rs.
Capital Work In Progress (Note 17)				
Construction Work	144,446,281,802	(234,205,948)		144,212,075,854
Rehabilitation	5,211,203,351	(10,325,403)		5,200,877,948
	<u>149,657,485,153</u>	<u>(244,531,351)</u>		<u>149,412,953,802</u>
Inventories (Note 19)				
Stock in transit	557,590,430	2,438,174		560,028,604
Trade and other receivable (Note 20)				
Advances to Staff	33,203,391	(542,671)		32,660,720
Deposit and advance (Note 21)				
Mobilization and Other Advances	13,005,670,673	(6,838)		13,005,663,835
Cash and Cash Equivalents (Note 23)				
Cash In Bank	2,317,564,300	(733,339)		2,316,830,961
Capital grant (Note 28)				
Foreign Grants	165,066,132,305	(219,422,130)		164,846,710,175
Local Grants	890,983,392	(813,209)		890,170,183
	<u>165,957,115,697</u>	<u>(220,235,338)</u>		<u>165,736,880,359</u>
Trade and other payable (Note 31)				
VAT Payable	227,329,734	(10,425,797)		216,903,937
Audit fee-AGDSL from 2010 to 2014	2,963,520	11,090,400		14,053,920
	<u>230,293,254</u>	<u>664,603</u>		<u>230,957,857</u>
Interest payable	-	1,129,932		1,129,932
Held to Maturity (Note 22)	5,194,262,510	6,251,776	764,743	5,201,279,029
Amortization of intangible assets (Note 10.2)	47,847,426		(31,898,284)	15,949,142

Non operating assets and liabilities

During the year long outstanding balances reconciliation programme was carried out, all non operating balances and some of long outstanding balances have been transferred to separate account to further reconciliation in future. Net effect of which have been adjusted to debtors to reflect the fair presentation and prior year has been adjusted with respect to non operating balances.

National Water Supply And Drainage Board

NOTES TO THE FINANCIAL STATEMENTS

Year ended 31 December 2016

36. As at 31.12.2016 board has committed following loans .

	Rs.
Local Bank Funded Project Loans	50,436,605,168
Foreign Funded Project Loans	<u>52,304,746,571</u>
Total	<u>102,741,351,739</u>



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கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය
எனது இல.
My No.

WSS/A/NWSDB/01/2016

ඔබේ අංකය
உமது இல.
Your No.

දිනය
திகதி
Date

30 January 2018

The Chairman

National Water Supply and Drainage Board

Report of the Auditor General on the Financial Statements of the National Water Supply and Drainage Board for the year ended 31 December 2016 in terms of Section 14 (2) (c) of the Finance Act, No 38 of 1971

The audit of financial statements of the National Water Supply and Drainage Board ("the Board") for the year ended 31 December 2016 comprising the statement of financial position as at 31 December 2016 and the statement of income and statement of comprehensive income, statement of changes in equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory information, was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13(1) of the Finance Act, No.38 of 1971. My comments and observations which I consider should be published with the Annual Report of the Board in terms of Section 14 (2) (c) of the Finance Act appear in this report.

1.2 Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Sri Lanka Accounting Standards and for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatements, whether due to fraud or error.

1.3 Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards consistent with International Standards of Supreme Audit Institutions (ISSAI 1000-1810). Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Board's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Board's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. Sub-sections (3) and (4) of Section 13 of the Finance Act, No 38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

1.4 Basis for Qualified Opinion

My opinion is qualified based on the matters described in paragraph 2.2 of this report.

2. Financial Statements

2.1 Qualified Opinion

In my opinion, except for the effects of the matters described in paragraph 2.2 of this report, the financial statements give a true and fair view of the financial position of the National Water Supply and Drainage Board as at 31 December 2016 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Accounting Standards.

2.2 Comments on Financial Statements

2.2.1 Compliance with Sri Lanka Accounting Standards (LKAS)

The following observations are made.

(a) LKAS 08-Accounting Policies, Changes in Accounting Estimates and Errors:

Fully depreciated motor vehicles costing Rs.391,105,000 are being continuously used by the Board without taking action to review the useful life time of those vehicles. Further, the Board had also failed to correct the estimated error thereon.

(b) **LKAS 12, Income Taxes**

Differed tax asset and liabilities had not been recognized in the financial statements during the year under your review. Instead of that disclosure relating to differed tax calculation had been made in the financial statement without identifying all taxable temporary differences and deductible temporary differences.

(c) **LKAS 19, Employee Benefits**

Provision for retirement benefit obligation (Gratuity Provision) was not made in the financial statement for the year under review as per the requirements of Section 58 of the Standard. Instead of that an amount equivalent to Rs.394.69 Million which was paid as gratuity during the year under review had been identified as provision for the year under review. Hence, the profit and the provision for gratuity for the year under review had been understated by Rs. 545.91 Million.

(d) **LKAS 20, Accounting for Government Grants and Disclosure of Government Assistance**

- (i) Total cost incurred under 28 Foreign Funded Projects aggregating Rs.9,453.27 million which was remained unchanged over a period of 11 years had been brought to the accounts as at 31 December 2016 without being amortized. The impact to the financial statements due to non-amortization could not be ascertained in audit as there were no details available relevant to those foreign grants.
- (ii) Unidentified transactions valued at Rs.2,478.24 million relating to specified projects accounted for as foreign grants had not been amortized as at 31 December 2016.

(e) **LKAS 40, Investment Property**

The carrying value of investment property amounting to Rs. 352.06 Million had not been separately shown in the statement of financial position in terms of Section 75 and 79 of the Slandered.

2.2.2 Accounting Deficiencies

The following observations are made.

- (a) Balances aggregating Rs. 228,559,097 shown under the works-in-progress in respect of 12 Projects had remained unchanged over a period ranging from three to ten years without being investigated in order to make necessary adjustments in the financial statements.
- (b) Sixty four completed and commissioned water supply projects costing Rs.5,534,819,630 had remained in the work-in- progress as at 31 December 2016 without being capitalized.
- (c) The values of DI pipes and fittings stock as at 31 December 2016 had been overstated and understated by Rs.6,878,121 and Rs.7,246,655 respectively due computation error.
- (d) An over provision of Rs. 4,324,111 was made for the obsolete stocks shown in the financial statements and as a result, the profit of the year under review had been understated by similar amount.
- (e) A parapet wall alongside the Head Office of the Board had been constructed at a cost of Rs.6,870,296 and handed over to the Board in 2014 by the Road Development Authority due to damage caused to the wall during the construction of road. However, out of that only a sum of Rs.3,424,712 had been capitalized by the Board at the end of the year under review.
- (f) Small Cities Water Supply Project in Pulmuddai costing Rs.192,452,347 shown under non-current assets since 2015 had been amortized twice under the foreign grants and rechargeable scheme during the year under review. Hence, the profit for the year under review had been understated by Rs.3,364,558.
- (g) Actions had not been taken to correct the stock shortages of Rs.2,421,893 shown in the stocks adjustment account.



- (h) Furniture and computer equipment valued at Rs.631,049 belongs to the Board and used by the Japanese Project Section at the Head Office had not been included in the asset accounts.
- (i) Economic Service Charges amounting to Rs.63,287,387 paid during the year under review had been erroneously identified as income tax expenses for the year 2016 without being identified as receivables. Hence, the profit year and current assets for the year under review had been understated by similar amount.
- (j) It was observed in audit that as a practice, the Board is continuously making significant adjustments to the retained profit/ (loss) by way of prior year adjustments in every year. As a result, the profit for each year had been distorted by considerable amount. The net effect to the retained profit/ (loss) for the period from 2013 to 2015 as a result of such prior year adjustments was aggregating Rs.345.9 million. In this ground, the possibility for making adjustments to the profit for the year under review in the forthcoming year had not been ruled out in audit. Hence, the reliability and accuracy of the financial results for the year under review could not be satisfactorily accepted in audit. The details of such adjustments made in the year under review and the previous two years are given below.

Year	Amount Debited	Amount Credited	Net effect to the Accumulated Profit
-----	-----	-----	-----
	Rs.	Rs.	Rs.
2016	(455,977,322)	336,150,543	(119,826,779)
2015	(184,251,720)	192,301,771	8,050,051
2014	(88,633,609)	269,544,864	180,911,255

2.2.3 Un-explained Differences

The following observations are made.

- (a) According to the financial statements furnished by the Global Partnership on Output Based AID Project, the value of foreign grant as at 31 December 2016 was Rs.212,666,110. However, according to the financial statements of the Board, it was shown as Rs.282,644,182. Hence, an unexplained difference of Rs.69,978,072 was observed in audit.
- (b) Even though the debtor balances as at 31 December 2015 as per the comparison figure shown in the financial statements for the year 2016 was Rs.3,895,171,826 this balance had been shown as Rs.3,813,272,977 in the financial statements prepared for the year 2015. Hence, a difference of Rs.81,898,849 was observed in audit.

2.2.4 Unidentified Balances

The following observations are made.

- (a) Fruitful action had not been taken in respect of unidentified balance of Rs. 179,347 shown in a bank reconciliation statement for over long period of time relating to the current account maintaining at Matara Regional Support Centre.
- (b) Although internal cash transfer control accounts should be zero at the year end, credit balances totaling Rs.2,434,907 remained in this control account without being cleared.
- (c) As per the age analysis of new connection control account, debtors balances aggregating Rs.1,155,154 relating to Trincomalee Region had been brought to the accounts without being identified and reconciled for more than 4 years.
- (d) Debit balance in the collection control account relating to the Trincomalee Region as at 31 December 2016 was Rs.8,677,004. Out of that amounting to Rs.5,108,669 and Rs.2,494,371 had been remain outstanding for more than 4 years and 2 years respectively without been reconciled.
- (e) Even though a balance of Rs.1,721,237 was brought to the financial statements as rehabilitation tax for more than 3 years, reason for creating this account had not been explained to audit.

2.2.5 Lack of Evidence for Audit

Feasibility report and detail schedule of the Wilgamuwa Water Supply Project relating to non-moving and slow-moving stocks valued at Rs.614,524,704 and Rs.474,096,453 respectively had not been furnished to audit.

2.3 Accounts Receivable and Payable

The following observations are made.

- (a) The balances of trade debtor, sewerage debtor, Colombo Municipal Council debtor, new collection debtor and other debtor aggregating Rs. 282,919,175 had remained in the accounts for over a period of 3 years without being recovered.
- (b) The special bonus advances amounting to Rs. 10,529,933 had remained over 17 years without being settled.
- (c) Short Term Deposits aggregating Rs.26,624,610 kept by the Board at the Road Development Authority (RDA) and Colombo Municipal Council had remained unrecovered since the year 2002. Further, the Short Term Deposits totaling Rs.2,801,222 kept by the Regional Support Centre (Central) at the Road



Development Authority and Central Provincial Council had remained unrecovered since the year 2010.

- (d) Advances given to than Ministry of Water Supply and Drainage amounting to Rs.4,378,829 had been transferred to the suspense debtors during the year 2016. Further, another balance of Rs.15,227,491 remained in the advance account as at the end of the year 2016 had been also transferred to this account without being given any reason.
- (e) Advances totaling Rs.31,314,650 and Rs 13,121,877 granted to the contractors had remained unsettled for over eight years and over the three years respectively and action had not been taken to recover this balance even up to the end of the year under review.
- (f) Advances given to officers and institutions for purchases during the period of 1997 to 2015 amounting to Rs.274,126 had not been settled yet.
- (g) Advances totaling Rs.5,520,606 given for the special projects had not been settled by the relevant parties over three years.
- (h) Although the lands had acquired, action had not been taken to recover the advances granted to acquisition of such lands amounting to Rs. 94,276,927 during the period of 2009 to 2013.
- (i) Creditors totaling Rs.27,182,581 had been kept by the Kandy East Region without being settled since the year 2013.
- (j) Unclaimed salaries and wages as at 31 December 2016 was Rs.5,419,070 and it was represented 67 per cent of the total payables as at the end of the year under review.
- (k) Local loan balance of Rs.20,713,131 payable to local banks relating to the Urban Development Project was remained in the accounts since 2011 without being settled.

2.4 Non – compliance with Laws, Rules, Regulations and Management Decisions

The following instances of non-compliance were observed in audit.

Reference to Laws, Rules and Regulation etc.

Non-compliance

(a) Financial Regulation of the
Government of the Democratic
Socialist Republic of Sri Lanka

(i) Financial Regulation 395(c)

Even though the bank reconciliations should be prepared before 15 of the following month, bank reconciliations of all bank accounts for the month of December 2016 had been prepared after 15 January 2017.

(ii) Financial Regulation 770

Obsolete stocks valued at Rs.16,117,179 had been included in the financial statements of the year 2016 without taking necessary actions as described in the Regulation.

(b) Management Services Circular
No. 30 of 22 September 2006

The approval of the Department of Management Services for the Scheme of Recruitments and Promotions of the Board had not been obtained.

(c) Section 8.3.9 of the Department
of Public Enterprises Circular No,
PED/12 of 02 June 2003-

i. Eleven motor vehicles had been released to the line Ministry during the period of January to December 2016 and Rs.1,666,150 had been incurred by the Board for renewal of licenses and insurance policies of those vehicles contrary to the provisions in the Circular.

ii. Thirty nine employees had been released to the line Ministry and other Ministries during the

year under review contrary to the provisions in the Circular. The salaries for those employees paid by the Board had not been reimbursed from the respective parties.

3. Financial Review

3.1 Financial Results

According to the financial statements presented, the financial results of the Board for the year ended 31 December 2016 had been a pre-tax net profit of Rs.2,989,591,779 as compared with the pre-tax net profit of Rs.1,149,598,362 for the preceding year, thus indicating an improvement of Rs.1,839,993,417 in the financial results. Significant increase in sales and other operating income, and gains as compared with the previous year were the main reasons attributed for this improvement in the financial results.

An analysis of the financial results for the year under review and the 4 preceding years, the surplus of Rs.407,019,536 in the year 2012 had increased to Rs.2,989,591,779 in the year 2016 with fluctuations. Nevertheless, after taking into account the employees' remunerations, depreciation on non-current assets and taxes paid to the Government, the surplus of Rs.10,374,694,060 in the year 2012 had increased to Rs.15,879,602,172 in the year 2016 with fluctuations.

3.2 Analytical Financial Review

3.2.1 Profitability

The following observations are made in this correction.

- (a) The gross profit of the year under review had increased by 27 per cent while administrative expenses had increased by 7 per cent as compared with the preceding year. Hence, the operating profit of Rs.1,756,594,590 has recorded during the year under review and it had improved by 2870 per cent as compared with the preceding year. Increase of profit for the year by 174 per cent as compared with the previous year was the main reason attributed for this improvement.
- (b) The contribution of Rs.774,768 per employee in the year 2015 had increased by 29.01 per cent in the year 2016, while net profit of Rs.104,156 per employee in the

year 2015 had also increased to Rs.281,505 in the year 2016 reflecting a 178.06 per cent increase.

- (c) The revenue of Rs.40.99 per unit of water consumed in the year 2015 had increased by 5 per cent in the year 2016 while production cost of Rs.46.79 per unit of water consumed in the year 2015 had decreased to Rs. 45.48 or by 3 per cent in the year 2016.

3.2.2 Significant Accounting Ratios

Certain significant accounting ratios for the year under review and proceeding 3 years period are given below.

Year	2016	2015	2014	2013
Gross Profit Margin	42.82	39.19	39.47	41.35
Net Profit Margin	12.68	5.53	7.62	5.87
Current Ratio	5.97	4.48	1.76	1.29

According to the above information the gross profit margin and net profit margin had increased by 9.26 per cent and 129.29 per cent respectively as compared with previous year.

4 Operating Review

4.1 Performance

The following observations are made in relation to achieving the main objectives of the Board.

(a) Production and Distribution of Clean Water

The Board had produced 649 million cubic meters of clean water during the year 2016 as compared with the production of 600 million cubic meters in the year 2015 and is indicated 8.16 per cent increase in the production of clean water. The production cost per unit during the year 2012 to 2016 is as follows.

Year	2016	2015	2014	2013	2012
Unit cost (Rs.)	45.27	46.79	43.96	44.39	41.22

According to the above table, the production cost of the unit in the year under review had been increased 9.82 per cent as compared with the year 2012, main reason for this increase were significant increase in the staff cost and energy cost during the period of 2012 to 2016.

The number of water supply connections given up to the end of the year under review was 138,795 thus, indicating an increase of 13.91 per cent as compared with that of previous year.

- (b) According to the target set out for the year under review it was expected to provide 140,676 new connections during the year under review. However, only 138,750 new connections had been provided during the year under review.

(c) **Non - Revenue Water (NRW)**

The loss incurred by the Board due to non-revenue water which had not been identified and accounted separately, but it had been brought to the accounts as a normal cost. Details of non-revenue water of the year under review and the last four years are given below.

Description	2016	2015	2014	2013	2012
Water Production (Cu. m.)	649	600.14	575.00	547.0	525.6
Water Consumption (Cu.m.)	483	436.27	410.92	381.6	368.5
Non-Revenue Water (Cu.m.)	166	163.87	137.07	165.4	157.1
NRW as a percentage of					
Water Production	25.58	27.30	28.53	30.24	29.89

The following observations are also made in this connection.

- (i) Out of the quantity of water produced by the Board in the year 2016, non-revenue water represented 25.58 per cent due to leakage, unlawful connections, free supply, and administrative reasons etc. The portion of the non-revenue water in the city of Colombo in 2016 had been 44.25 per cent.

- (ii) Even though the Board had taken certain course of action during the past period to minimize the unlawful connections and expediting the systems for repairing the temporary breakdowns of water distribution lines, non-revenue water (Cum) in the current year as compared with the year 2012 had increased by 5.66 per cent.
- (iii) As there is a need for the modernization of the main water distribution systems in the city of Colombo, which is older than 75 years, special attention of the Board is drawn to the urgency for the preparation and implementation of plans for that purpose. Even though two foreign funded Projects are being implemented in this connection at present, an adequate reconstruction of water mains had not been achieved therefrom.
- (iv) The water distribution mains that should be replaced due to water leakages have not been specifically identified to date. Even though the proposals for the implementation of the several major projects have been made, their implementation is moving at a very slow pace.
- (v) The attention of the Board for reducing the non-revenue water in the areas other than the city of Colombo was also inadequate and it was observed that the targets included in the Corporate Plan were also not realistic.
- (vi) Although 6 projects with the estimated expenditure of Rs.3,100.17 million had been commenced to reduce the non-revenue water, considerable reduction could not be identified.

(d) **Sewerage System**

The need for carrying out improvements to the infrastructure facilities for the disposal of sewerage in the cities has arisen due to urbanization taken place along with the economic development of the country. Even though the supply of such facilities is the responsibility of the Board, an adequate progress in this area was not shown in recent years. Although the supply of sewerage disposal facilities to 7 per cent of the total population had been expected as a national policy, the information to check the achievement was not made available to audit.



(e) **Achievement of Targets**

The following observations are made relating to targets set out in the Action Plan and their achievements in the year under review.

- (i) Only five Regional Support Centers out of 12 had been able to achieve the targets determined in order to reduce the percentage of Non-revenue. Further, it was expected to reduce the total Non-Revenue Water up to 44.25 per cent at Colombo city. However, the actual reduction was remained 45.85 per cent as at the end of the year 2016.
- (ii) Although it was expected to increase total pipe water supply coverage and total sewerage connections coverage up to 49.8 per cent and 2.4 per cent of total population, the actual coverage was only 47.7 per cent and 2 per cent respectively as at the end of the year 2016.

4.2 **Implementation of Foreign Funded Projects**

A large number of water supply and sanitation services Projects using local and foreign funds were carried out during the year under review and in the previous years. However, the following weaknesses are observed in this connection.

- (a) Most of the large-scale foreign funded projects had not been completed on due dates and cost had highly escalated due to additional works and price increases resulting from the extension of the project period.
- (b) Uniform accounting policies had not been followed for the preparation and fair presentations of financial statements of such projects.
- (c) **Jaffna Killinochi Water Supply and Sanitation Project**

The following observations are made.

- (i) According to the financial statements of the National Water Supply and Drainage Board, the work-in-progress of the activities carried out by the Project as at 31 December 2016 amounted to Rs. 2,023 million. However,

according to the financial statements of the Project, it was shown as Rs.2,236 million. The difference of Rs.213 million had not been reconciled.

- (ii) According to Section 92 of the National Water Supply and Drainage Board Law No. 2 of 1974, immovable property acquired under Land Acquisition Act should be transferred to the Board. Further, Attorney General had given an opinion on 11 March 2015 that the Water Supply and Drainage Board specially prohibits purchase of immovable property. However, the Project had spent a sum of Rs.2.5 million on March 2013 for the purchase of land in Nallur.

(d) Dry Zone Urban Water and Sanitation Project

The following observations are made.

- (i) Interest amounting to Rs.68.50 million up to 31 December 2014 charged by the General Treasury under the subsidiary loan agreement entered into with the National Water Supply and Drainage Board had been shown under work-in-progress of the Project.
- (ii) Value Added Tax aggregating Rs.131.17 million paid up to 31 December 2016 had been set off against the proceeds of Government contribution received from the Government of Sri Lanka instead of being shown under work-in-progress. As a result, contribution of the Government of Sri Lanka and the work-in-progress shown in the financial statements had been understated by similar amount.
- (iii) According to paragraph 15 of the Schedule 05 of the Loan Agreement, the Water Supply Policy and Sanitation Policy should be approved by the Ministers of Cabinet before implementing by the Project. Even though the Water Supply Policy had been approved by the Ministers of Cabinet on 03 March 2010, the Sanitation Policy had not been approved even as at 31 December 2016.
- (iv) According to paragraph 18 of the Schedule 05 of the Loan Agreement, Urban Councils shall conduct regular monitoring of the quality and quantity

of treated effluent, the quality of the water into which the effluent discharged and the bacteriological quality of dried sewerage sludge. However, no information had been received with regard to implementation of monitoring mechanism by the Urban Councils for effective effluent management.

- (v) The Urban Councils assisted by the Project for septage improvements works should take necessary actions at the initial stages to pass resolution and by-laws to introduce a fee for septage collections and disposals as enable to cover operational and maintenance cost and introduce the compulsory use of septage tanks in new property development. However, action had not been taken by the Urban Councils to implement the proposals thereon.
- (vi) The Project Director had not attended for duties in full time basis and that matter had badly affected to achieve the physical and financial targets of the Project.
- (vii) The Ministers of Cabinet had decided at its meeting held on 05 April 2013 to take action jointly by the Ministry of City Planning and Water Supply, and National Water Supply and Drainage Board to implement a suitable mechanism to closely monitor the activities of the Project. However, no suitable mechanism had been introduced by the both parties even up to 31 December 2016 in this regard.
- (viii) The National Water Supply and Drainage Board had signed a Memorandum of Understanding in 2014 for renovation of 03 irrigation tanks and revamping of lands in Pathiyakulam and Katkulam for paddy cultivation with the assistant of Commissioner of the Department of Agrarian Development in Vauniya without obtaining the concurrence of the Department of Agrarian Development. However, the physical progress of the activities had remained slow as at 31 December 2016 due to administration weaknesses and lack of adequate supervision of the Department of Agrarian Development. Although this matter was highlighted in my previous audit report, the Project had not taken satisfactory action in this regard.

- (e) According to Guideline 8.9.3 of the Government Procurement Guidelines, the value of contract is more than or equal to Rs.500 million, should be signed by Secretary to the Line Ministry. However, the following contracts had been signed by the Chairman of the National Water Supply and Drainage Board contrary to the above requirement.

Name of the Project	Name of the Contract	Value Rs. Million
Greater Colombo Water and Wastewater Management Improvement Investment Programme – Project 01 (Loan No 2947 SRI and 2948 SRI (SF))	NRW Management Construction Supervision Consultancy Contract	216
Greater Colombo Water and Wastewater Management Improvement Investment Programme Project 2	System rehabilitation for NRW reduction in South part of the Colombo City and system rehabilitation for NRW reduction in West part of the Colombo City	6,991 and 6,555
Greater Colombo Water and Wastewater Management Improvement Investment Programme - Project 2 AFD (Ambatale Energy Saving Project)	Supply and Laying of 9 km DT Pipes (1200mm Dia) and Accessories from Ambatale to Elite House Reservoir	2,565
Greater Colombo Water and Wastewater Management Improvement Investment Programme – Project 01 (Loan No 2947 SRI and 2948 SRI (SF))	System rehabilitation for NRW reduction in North part of the Colombo City and system rehabilitation for NRW reduction in East part of the Colombo City.	1,041 and 5,001
Gampaha, Attnagalla and Minuwangoda Integrated Water Supply Scheme	Contract No: P&P/DB/CHINA EXIM/GAMIWSS/2013/01	33,060

(f) **Monaragala, Buttala Water Supply Project.**

Although the amended Engineer's estimation of the Project was Euro 19.67million, the contract had been awarded to the value of Euro 23.98 million with 21.91 per cent increase. Further, availability of budgetary provision had not been consider before



awarding the contract as regarded by Guideline 8.7.1(a) of the Procurement Guidelines-2006

(g) Rehabilitation of Water Supply Project - Labugama, Kalatuwawa

The following observations are made.

- (i) A sum of Rs.66, 017,868 had been spent to procure four Double Cabs and two Vans by the Project during the year 2014. It was further observed that an additional cost of Rs.38,089,103 had to be paid to the contractor due to lack of properly defined specifications and the country of origin.
- (ii) A sum of Rs.119,391,800 had been paid to the contractor by the Project for the construction of New Office Building and 4 Office Quarters during the year under review. As per the milestone payment certificate, cost per square feet of the New Office Building and the Office Quarters was Rs.27,758 and Rs.10,416 respectively. According to the reports submitted by several Government Institutions, market rate for square feet of similar type of Office Building and Office Quarters was Rs.5,570 and Rs.4,997 respectively. As the rate claimed by the contractor was higher than prevailing market rate, a loss of Rs.81,481,200 had sustained to the Government with regard to construction of office building and office quarters with an extent of 2,500 square feet and 1200 square feet respectively under Labugama Project.

Similarly, the cost per square meter for the construction of Office Quarters was Rs.71,320 under the Kalatuwawa Project. Accordingly, the estimated cost for constructing 5 Office Quarters was Rs.35,659,900. However, according to the reports submitted by several Government Institutions, the market rate per square meter for the construction of similar type of Office Quarters was Rs.53,787. Therefore, the rate claimed by the contractor was higher than the prevailing market rate and as a result an additional cost of Rs.8,766,500 had been incurred by the Project relating to construction of 5 Office Quarters with an extent of 500 square meters.

(iii) Water Treatment Plant - Kalatuwawa

The following observations are made.

- Lamellar plates of the Sedimentation Tank had been removed during the renovations and new lamellar plates had not been fixed thereafter. As a result, sedimentation deposited in the tanks with thick layer and thereby water could not be properly cleaned.
- According to the technical requirement it is required to test 8 parameters of the final water sample daily. However, parameters such as True Color, Total Manganese and THM had not being tested by the laboratory at Kalatuwawa. Further, according to Section 8.3.5.1.4 of the contract agreement, the contractor had to be tested 8 parameters of the final water samples during the contract period. Nevertheless, it had not been tested during the contract period.

(h) **Greater Dambulla Water Supply Project**

Commencement date of this Project was 06 March 2012 and scheduled to be completed by 05 September 2014. However, contractor had failed to complete the Project within the stipulated contract period. Subsequently, the contract period of the Project had been extended in 4 times by the Board up to 31 May 2017 due to not commence some works by the contractor, failure to deploy adequate human resources, abandoned the construction works on various reasons by sub-contractors and un-availability of required materials at proper stages for the Project works etc. Further, it was observed in audit that the financial and physical progress of the Project as at 20 June were 88.6 per cent and 85 per cent respectively.

Even though the contractor had failed to complete this Project works on time, Polgahawela, Pothuhera and Alawwa Integrated Water Supply Project worth US\$108 million and Pannala, Makandura, Kuliyaipitiya Water Supply Project worth US\$ 91.36 million had also been awarded to this contractor on 08 April 2014 and 02 December 2015 respectively.

4.3 Local Bank Loan Water Supply Projects

4.3.1 Water Supply Project - Kandeketiya

Even though the procurements relating to Project works had been commenced since 2013, it was observed in audit that a formal agreement had not been entered into with contractor as per Guideline 8.9 of Procurement Guidelines-2006 even up to 31 January 2017.

4.3.2 Ampara Distribution Network Water Supply Project

The following observations are made.

- (a) As per the newspaper advertisement published on 11 December 2013 by Inviting the Expression of Interest, the Engineer Estimate of the Project was Rs.3,000 million. However, when calling Invitation for Bids this value had been increased up to Rs.5,184.66 million. Reasons for this increase had not been furnished to the audit.
- (b) According to the Screening Report of the contract, it was revealed that the contractor had submitted an Expression of Interest on May 2013 (before publishing the advertisement) and the contractor had not fulfilled the required financial capabilities and therefore, the contractor selected for this works had not qualified for awarding the contract.
- (c) In terms of Section 5.3.16 of the Procurement Guidelines if bidders are permitted to submit alternative bids it shall be clearly stated in the bidding documents. The alternative bid submitted by the above contractor had evaluated by the Technical Evaluation Committee and recommended to award the contract for Rs.6, 848.06 million, even though it had not been stated in the bidding documents issued by the Board.

4.4 Management Inefficiencies

Even though a sum of Rs.162.75 million provided for small and medium size water supply and drainage Projects implemented in the Central Province during the year under review, only a sum of Rs.65.13 million had been utilized by 30 October 2016.

4.5 Idle and Underutilized Assets

The following observations are made.

- (a) Stationery stocks valued at Rs.1,542,951 had remained in the stocks as slow moving items for a long period of time.
- (b) According to the audit test check, it was observed that slow-moving stocks valued at Rs.328,937,648 relating to 19 water supply schemes had remained for a long period of time without being taken proper action.
- (c) It was observed that non-moving stocks valued at Rs.614,524,704 and slow moving stocks valued at Rs.474,096,453 had remained in stocks as at 31 December 2016, and it representing 9 per cent and 7 per cent respectively of the total stocks value of the Board. Further, it was an increase of 54 per cent and 37 per cent respectively as compared with the previous year.
- (d) After spending of Rs.1,944,929, Construction of Boundary Wall in Regional Manager Office, Batticaloa had been abandoned without being achieved the objectives of the Project.
- (e) Billing had not been done for water consumption of 1,686,348 cum3 valued at Rs.109 million by the National Housing Authority during the year under review.

4.6 Matters of Contentious Nature

The following observations are made.

- a) Out of stocks in transit of Rs.21,034,473 as at 31 December 2016, stocks valued at Rs.4,223,879 had remained unchanged for a period between one to three years without being investigated. Further, out of stocks worth Rs.128,121,224 shown in the financial statements as at 31 December 2016, the stocks valued at Rs.40,885,545 had shown as stocks in transit over period of two years.
- b) Although stocks received and issued should be adjusted to the stock balance before stock verification, the net debit balances totaling Rs.852,503,970 and net credit

balances totaling Rs. 377,300,265 had been adjusted to the stocks balance after the stocks verification due to not updating the stocks books.

- c) Fourteen contract works had not been completed within the stipulated time period and they were delayed from one to two years without providing any reason. However, the relevant liquidated damages had not been recovered from the contractors in terms of conditions in the contract agreement.
- d) According to the information provided by the Board to audit, 11 vehicles had been released to the Ministry of City Planning and Water Supply since September 2015 to September 2016. However, Secretary to the Ministry had informed me, those 4 vehicles out of eleven bearing numbers, PB-3978, KC-2312, KA-7558 and KL-7787 were not taken over by the Ministry.
- e) It was decided to purchase a land to construct the Waste Water Treatment Plant under Galle Area Wastewater Disposal Project during the year 2014 and the Department of Valuation had valued this land as Rs.71.5 million. An advance payment of Rs.21.45 million or 30 per cent of the value had been paid to the land owner in April 2014. However, the land already occupied some families and the land owner had removed the soil from this land after paid the advance. Prompt action had not been taken by the Board in this regard.
Further, according to Section 92 of the National Water Supply and Drainage Board Low No.2 of 1974, immovable property should acquire under the Land Acquisition Act and to be transferred to the Board. Furthermore, Attorney General had given an opinion on 11 March 2015 that the Water Supply and Drainage Board specially prohibits purchase of immovable property. However, it was observed in audit that the Board had not complied with the provisions in National Water Supply and Drainage Board Law No.2 of 1974 in this connection.
- f) The contract for purchase of 3,000 MT Aluminum Sulphate had been awarded to an Indian company for US\$ 420,000 and Rs.7,500,000 on 18 February 2016 and formal agreement had been signed on 03 March 2016. The following observations are made in this regards.

- (i) According to the Engineer Estimate, the value of 3,000 MT Aluminum Sulphate was Rs.95,385,000. However, the contract had been awarded for Rs.68,517,600 and it was 28.17 per cent lesser than the Engineer Estimate. It was revealed in audit that the Technical Evaluation Committee had not considered the variation of the price quoted by the bidder before making recommendation.
- (ii) Two officers of the Board had attended the pre-shipment inspection held at the factory of the supplier in India and sample taken by them had been handed over to the Laboratory of the Board on 30 May 2016. However, there was no evidence to prove that the officers participated for inspection is competent enough to collect the sample.
- (iii) The sample collected from first shipment on 24 June 2016 had been tested at the Laboratory at Rathmalana. As per the testing report issued on 30 June 2016, the samples were agreed with the specifications laid down for the Aluminum Sulphate SLS701-1985. Based on the test report the Deputy General Manager (Supply and Material Management) had informed to the Main Stores and the Provincial Water Purification Stations to use this Aluminum Sulphate for water purification purpose. However, according to the test report dated 11 July 2016 relating to the samples collected from the Water Purification Station at Kandana on 23 June 2016 it was revealed that the samples were not in accordance with the specification for Aluminum Sulphate. Further, both samples which collected from first shipment and the Water Purification Station at Kandana were tested in Ambatale laboratory on 25 July 2016 and it was confirmed that the samples were not in line with the specifications.
- (iv) According to the discussion had with the supplier on 07 October 2016, the supplier was agreed to grind 274.1 MT Aluminum Sulphate and delivered to the Board. However, supplier had failed to hand over the material as agreed. It was revealed in audit that the contractor had used compactor machine for grind the Aluminum Sulphate at the Main Stores.



- (v) Although the Board had paid a sum of Rs.14,006,437 to the supplier up to 16 December 2016, only a sum of Rs.6,861,000 had been recovered from the Performance Guarantee provided by the supplier. Therefore, a financial loss of Rs.7,205,437 had been sustained by the Board due this transactions.
- (vi) Due to inferior quality of Aluminum Sulphate the Board had to procure Aluminum Sulphate from the previous supplier by incurring an extra cost to the Board.
- (g) Greater Galle Water Supply Project had acquired a land by paying Rs.16 million for the construction of Hapugala Water Refinery Plant in 2012, and the land was not utilized for the intended purpose to date due to a large rock was found after acquisition of the land while investigation for construction therein.

4.7 Human Resources Management

The following observations are made.

- (a) The Board had not taken actions to fill 729 vacancies remained in the main operational level posts such as Managers / Engineer (Mechanical), Engineer (Electrical), Engineer (Civil), Middle Level Technical (ML- T) Clerical and Allied Categories and Other Skilled Grade etc. even up to the end of year under review.
- (b) Action had not been taken to obtain the approval for Scheme of Recruitments and Promotions from the Department of Management Services, as specified in the Management Services Department's Circular No. 30 dated 22 September 2006.
- (c) Board had not taken any action to fill 224 vacancies existed at Regional Support Centre Central, Kandy East, Kandy South, and Kandy North and it represents 30 per cent of the approved cadre.
- (d) According to the information furnished by the Board to audit, the Board had released 113 employees in various categories to the Foreign Funded Projects during the period from 2007 October to 31 December 2016 even though there are 729 vacancies remained in the main operational level posts. Salaries and other allowances paid by the Board had been reimbursed by those Projects to the Board. 02 Deputy General Managers, 13 Assistant General Managers, 33 Chief Engineers, 25 Engineers, 24 Engineering Assistants and 8 Sociologists were among them.

4.8 Apparent Irregularities

The cash fraud of Rs.246.66 million committed at Trincomalee, Kelaniya and Ampara Regions during the period of 1999 to 2006 had not been recovered from the persons responsible even up to 31 December 2016.

5. Accountability and Good Governance

5.1 Internal Audit

Even though a large number of water supply and sanitation services projects using by local and foreign funds are carrying out by the Board, adequate staff had not attached to the Technical Audit Section of the Board.

5.2 Budgetary Control

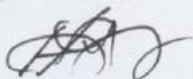
Significant variances ranging from 2 per cent to 75 per cent was observed between the budgeted and actual income and expenditure of the Board, thus indicating that the budget had not been made use of as an effective instrument of management control.

6. Systems and Controls

Weaknesses in systems and controls observed during the course of audit were brought to the notice of the Chairman of the Board from time to time. Special attention is needed in respect of the following areas of control.

<u>Control Areas</u>	<u>Observations</u>
(a) Accounting	(i) Failure to reconcile the control accounts and work in progress balances. (ii) Non compatible in numbering the journal vouchers at ledger and journal vouchers. (iii) Not entered the narrations in some journal vouchers.
(b) Assets Management	(i) Duplication of fixed assets in different Regions. (ii) Not reviewing and reinstating the value of intangible assets. (iii) Un-capitalizing the fixed assets even though the projects had been completed.

- | | | |
|---|-------|--|
| | (iv) | Failure to investigate about the work in progress balances remained unchanged for a long period. |
| (c) Stock Control | (i) | Un-reconciling the physically verified balance along with the ledger balances. |
| | (ii) | Prevailing long outstanding stocks in transits. |
| | (iii) | There were long unmoving and slow moving stocks item remained in the stores. |
| (d) Project Administration and Performance Review | (i) | Failure to complete the projects in expected time period and extending the time period of most projects without valid reasons. |
| | (ii) | Unable to properly carry out the feasibility studies. |
| | (iii) | Non-compliance with Government Procurement Guidelines |
| | (iv) | Cost had highly escalated due to time extension and weaknesses in fund utilization. |
| (e) Accounting of Rechargeable Scheme | | Advance received for the rechargeable Schemes remained in the custody for long a period without being set off against the relevant expenditure incurred. |
| (f) Personnel Management | (i) | Releasing of human resources to other institutions without required authority. |
| | (ii) | Recruitment of employees exceeding the approved cadre and without obtaining approvals from Department of Management Services. |



H.M. Gamini Wijesinghe
Auditor General

Abbreviations

AAT	- Association of Accounting Technicians	DS	- Divisional Secretariat
ADB	- Asian Development Bank	DSD	- Divisional Secretariat Division
ADSL	- Asymmetric Digital Subscriber Line	DWWF	- Design Wet Weather Flow
AE	- Area Engineer	DZUWSP	- Dry Zone Urban Water and Sanitation Project
AFD	- Agency of French Development	EAA	- Equiralent Annual Annuity
AGM	- Assistant General Manager	EBARA	- Ebara Corporation
AIT	- Asian Institute of Technology	EDC	- Export Development Canada
ANZ	- Australia and New Zealand	EDCF	- Korea Economic Development Cooperation Fund
AT	- Appropriate Technology	EFI	- Electric Fuel Injection
BMICH	- Bandaranayaka Memorial International Conference Hall	EFIC	- Export Finance and Insurance Corporation
BOC	- Bank of Ceylon	EIA	- Environmental Impact Assessment
BOQ	- Bill of Quantities	ERD	- External Resources Department
BOI	- Board of Investment	FIDIC	- International Federation of Consulting Engineers
CBI	- Community Based Instruction	GCS	- Greater Colombo Sewerage
CBO	- Community Based Organization	GCWMMIP	- Greater Colombo Water and Wastewater Management Improvement Investment Programme
CCN	- Colombo City North	GIS	- Geographic Information System
CCOEC	- China National Corporation for Overseas Economic Corporation	GM	- General Manager
CCS	- Colombo City South	GN	- Grama Niladari
CCTV	- Closed Circuit Television	GND	- Grama Niladari Division
CD	- Compact Disc	GOSL	- Government of Sri Lanka
CFL	- Compact Florescent Lamps	GPOBA	- Global Partnership on Output-Based Aid
CIDA	- Construction Industry Development Authority	GPS	- Global Positioning System
CKDu	- Chronic Kidney Disease of Unknown Etiology	GR	- Ground Reservoir
CMC	- Colombo Municipal Council	GSE	- Golden State Environment
CMEC	- China Machinery Engineering Corporation	GW	- Ground Water
CSI	- Customer Satisfaction Index	HDPE	- High Density Poly Ethelene
Cu.m	- Cubic meter	HH	- House Holds
DEWATS	- Decentralized Wastewater Treatment and Disposal System	HNDE	- Higher National Diploma in Technology
DFCC	- Development Finance Corporation of Ceylon	HRM	- Human Resource Management
DGM	- Deputy General Manager	IA	- Impact Assessment
DI	- Ductile Iron	ICT	- Information and Communication Technology
DMAs	- District Meter Areas	ICTA	- Information & Communication Technology Agency
DMAS	- Department of Medical Assistance Services	ICTAD	- Institute for Construction Training & Development
DMC	- Disaster Management Center		
DNCWS	- Department of National Community Water Supply		

ICWG	- Information & Communication Working Group	-	
IEE	- Initial Environmental Examination	NDB	National Development Bank
IESL	- Institution of Engineers Sri Lanka	NDT	- National Diploma in Technology
IET	- Institute of Engineering Technology	NHDA	- National Housing Development Authority
IIESL	- Institute of Incorporated Engineers Sri Lanka	NICD	- National Institute of Cor- operative Deveopment
IMS	- Inventory Management System	NPD	- National Planning Department
IORA	- India Ocean Rim Association	NRW	- Non-Revenue Water
ISO	- International Organization for Standardization	NSB	- National Savings Bank
IT	- Information Technology	NUFFIC	- Netherland 's Organisation for Internationaly Co - operation in Higher Education
ITEC	- Indian Technical and Economic Cooperation	NVQ	- National Vocational Qualification
JBIC	- Japan Bank for International Cooperation	NW	- North Western
JICA	- Japan International Cooperation Agency	NWSDB	- National Water Supply & Drainage Board
JJ	-Joint Japan World bank	O&M	- Operation & Maintenance
JPY	- Japanese Yen	ODA	- Official Development Assistance
JWRM	- Jaffna Water Resource Management	OIC	- Officer in Charge
km	- kilo meter	P&D	- Planning & Designs
KOICA	- Korea International Cooperation Agency	PAC	- Project Appraisal Committee
LA	- Local Authorities	PD	- Project Director
LED	- Light Emitting Diode	PDMRC	- Planning & Design Manual Review Committee
LKR	- Sri Lankan Rupee	PE	- Poly Ethelene
M&E	- Mechanical & Electrical	PHDT	- Plantation Human Development Trust
MC	- Municipal Council	PQ	- Pre-Qualification
MCM	- Million Cubic Meters	PLC	- Programmable Logic Controller
MD&T	- Manpower Development & Training	PVC	- Polyvinyl Chloride
MDTM	- Manpower Development and Training Division	PWD	- Public Works Department
MICP	- Manager's Internal Control Programme	PWTP	- Package Water Treatment Plants
MIS	- Management Information System	R&D	- Research & Development
MOU	- Memorandum of Understanding	RDA	- Road Development Authority
MPC	- Ministry Procurement Committee	RFP	- Request for Proposal
MPDT	- Model Production & Delivery Table	RM	- Regional Manager
MS	- MicroSoft	RO	- Reverse Osmosis
NAITA	- National Apprentices & Industrial Training Authority	RSC	- Regional Support Centre
NC	- North Central	RSC(WN)	- Regional Support Centre - Western North

RSC(Ws)	- Regional Support Centre - Western South	WHO	- World Health Organization
RSC(NC)	- Regional Support Centre - North Central	WQS	- Water Quality Surveillance
RSC(WC)	- Regional Support Centre - Western Central	WS	- Water Supply
RSC(N)	- Regional Support Centre - North	WS&S	- Water Supply & Sanitation
RWS	- Rural Water Supply	WSP	- Water Supply Project/ Water Safety Plan
		WSS	- Water Supply Scheme
		WTP	- Water Treatment Plant
S&D	- Socialists and Democrats	WWDS	- Wastewater Disposal System
SACOSAN	- South Asian Conference on Sanitation	WWTP	- WasteWater Treatment Plant
SCADA	- Supervisory Control and Data Acquisition		
SCAPC	- Standing Cabinet Appointed Procurement Committee		
SHIFT	- Sanitation and Hygiene Initiative for Towns		
SI	- Social Impact Assessment		
SIDA	- Swedish International Development Agency		
SLS	- Sri Lanka Standards		
SMS	- Short Message Service		
SQL	- Structured Query Language		
TCE	- Total Cost Estimate		
TEC	- Towns East of Colombo		
TFWLP	- Temasek Foundation Water Leadership Programme		
UC	- Urban Council		
UNICEF	- United Nations International Children's Education Fund		
UoC	- University of Colombo		
UPVC	- Unplasticised Poly Vinyl Chloride		
USA	- United States of America		
USD	- United States Dollar		
USS	- Underserved Settlement Water Supply		
VAT	- Value Added Tax		
VPN	- Virtual Private Network		
VLE	- Virtual Learning Environment		
VSD	- Variable Speed Drive		
WASSIP	- Water Supply & Sanitation Improvement Project		
WBGSP	-World Bank Graduate Scholarship Program		

Name of the Organization

National Water Supply & Drainage Board (NWSDB)

Legal Form

Government Owned Statutory Board

Date of Establishment

1974.03.01 by Act of Parliament
NWSDB Law, No. 2 of 1974

1992.03.11 the Act was amended
NWSDB (Amendment) Act, No. 13 of 1992

Tax Identification No.

4090 31820

VAT Registration No.

4090 31820 7000

Contact, Head Office

Galle Road, Ratmalana, Sri Lanka
Tel: +94 11 2638999 (hunting),
+94 11 2637194, +94 11 2611589
Fax: +94 11 2636449
Email: gm@waterboard.lk
Web: www.waterboard.lk

Line Ministry

Ministry of Water Supply & Drainage

Call Centre

1939 (24 hours)

Customer Care Unit, Head Office

+94 11 2623623 (During office hours)

Banker

Bank of Ceylon

Auditors

Deputy General Manager (Internal Audit)
Government Audit Unit

Board of Directors

Board of Directors

Eng. K. A. Ansar - Chairman, NWSDB
Mr. M. Shafeek Rajabdeen - Vice Chairman, NWSDB
Mr. P. I. T. Mahilal Silva - Working Director, NWSDB
Dr. P. G. Maheepala - Director General of Health Services
Ministry of Health
Mr. J. M. U. P. Jayamaha - Additional Director General
Department of Public Enterprises
Mr. Shantha Rathnayake - Board Member, NWSDB
Mrs. K. A. Subadra Walpola - Senior Assistant Secretary
Ministry of Local Government & Provincial Councils

Secretary to the Board

Mrs. W. P. Sandamali De Silva

Senior Management

Eng. B.W.R. Balasooriya - General Manager
Eng. G.A. Kumararathna - Addl. GM (Sewerage)
Eng. D.S.D. Jayasiriwardene - Addl. GM (Southern/ Eastern)
Eng. D. U. Sumanasekara - Addl. GM (Water Supply Projects)
Eng. R. S. C. George - Addl. GM (Policy and Planning)
Eng. W. B. G. Fernando - Addl. GM (Corporate Services)
Eng. J.R.B. Nedurana - Addl. GM (Northern/ Central)
Eng. L. L. A. Peiris - Addl. GM (Western)
Mr. D. Thotawatte - Addl. GM (Finance)
Mr. G.K. Iddamalgoda - Addl. GM (Human Resource Management)

Deputy General Managers of Divisions

Eng. Thilina S. Wijetunga (ADB Project)
Eng. U. Ratnapala (Project Co-ordination)
Eng. S. G. Jayawardena (Sewerage)
Eng. K. W. Premasiri (Planning & Design)
Eng. S. G. J. Rajkumar (Development)
Eng. S. Sumanaweera (Production - Western)
Eng. K. D. P. F. Siriwardana (Corporate Planning)
Eng. B. L. Goonaratne (M&E)
Eng. S.G.G. Rajkumar (Commercial)
Eng. Duleep Goonewardene (RWS)
Eng. J. Chandradasa (Information Technology)
Ms. M. M. S. Peiris (Finance)
Ms. A. P. S. De Silva (Costing)
Mr. R. M. A. S. Weerasena (Internal Audit)
Mrs. N. Y. S. Abeygunawardena (Industrial Relations)
Mr. R. M. A. Bandara (Supplies)

Deputy General Managers of Provinces/ RSCs

Eng. T. W. S. Perera (Western - Central)
Eng. C. C. H. S. Fernando (Western - South)
Eng. S.A. Rasheed (East)
Eng. R. A. B. S. Mendis (Western - North)
Eng. K. P. R. S. Samarasinghe (Central)
Eng. R. S. Liyanage (Uva)
Eng. G. V. Wijerathne (North Central)
Eng. Mrs. I. M. W. K. Illangasinghe (North Western)
Eng. M.M. Uma Lebbe (North)
Eng. W. W. Liyanage (Sabaragamuwa)
Eng. J.K.S. Pathirana (Southern)

Deputy General Managers working as Project Directors

Eng. R. Kulanatha - Wastewater disposal for
Rathmalana Moratuwa & Ja-Ela Ekala Area
Eng. B. S. Wijemanna - Greater Colombo Rehabilitation Project
Eng. K. J. V. A. Perera - Gampaha Attanagalla Water Supply Project
Eng. R. A. B. S. Mendis - ADB 5th Project
Eng. K.P.R.S. Samarasinghe - Labugama Kalatuwawa WSP and Kolonna
Balangoda WSP
Eng. S.A. Rasheed - Colombo Water Supply Service Improvement Project
Eng. P.P. Kahaduwa - Ruhunupura WSP
Eng. R.S. Liyanage - Mahiyanganaya WSP and Badulla Haliela WSP