

MESSAGE FROM THE HON. MINISTER OF URBAN DEVELOPMENT, WATER SUPPLY & DRAINAGE

Emerging water challenges require new ideas for governance and management of water resources in the context of rapid global change. Water is life for all nature and central to human development and prosperity. Over-use and mismanagement of freshwater resources now threaten the functioning of eco-systems that are crucial to human activities. Clean water and adequate sanitation contribute to human prosperity.

Sri Lanka has a historic hydraulic civilization. Sri Lanka recognizes the fact that water has a socio-environmental and cultural value in addition to its economic value. Water plays a vital role in the economic development and prosperity of the country.

Having a Symposium by water professional in the National Water Supply & Drainage Board will lead to enhance the technical capacity of the organization.

This symposium is aiming to provide a platform for sharing knowledge, strategies and best practices and to promote dialogue, mutual understanding and co-operation among professionals in the organization.

I wish the Symposium success and extend my fullest corporation to the organization to improve its technical capability.

Rauff Hakeem
Minister of Urban Development, Water Supply & Drainage



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Rauff Hakeem
Minister of Urban Development, Water Supply & Drainage



MESSAGE FROM THE HON. DEPUTY MINISTER OF URBAN DEVELOPMENT, WATER SUPPLY & DRAINAGE



As the new Deputy Minister I take this opportunity to congratulate to National Water Supply & Drainage Board Staff on organizing this Symposium.

Water plays a major role in economic development; this symposium will give opportunity to discuss the sustainable development through more efficient and effective water resource management.

I hope that this symposium will provide a platform to all researches in NWSDB to discuss their finding and these findings will help the country to have better water supply facilities.

I extend my wishes to the first Research & Development Study Symposium and I will not hesitate to give my fullest support to make this symposium a success.

Dunesh Gankanda
Deputy Minister Urban Development, Water Supply & Drainage

MESSAGE FROM THE SECRETARY TO THE MINISTRY OF URBAN DEVELOPMENT & WATER SUPPLY

The theme of the World Water Day 2015 is Water and Sustainable Development. A sustainable development is development that meets the needs of the present without compromising the needs of the future generations.

Due to the climate change in the world, people are facing unbearable challenges in receiving sufficient quantity of drinking water. As planners and researchers we should focus our studies on adoption to the climate change.

I am confident that National Water Supply & Drainage Board (NWS&DB) will have the strength to face all these challenges and I wish the Symposium success and extend my wholehearted wishes to the organizers of this event.

May I also take this opportunity to thank the NWS&DB for organizing the Symposium concurrent with the World Water Day celebrations.

Eng. Karunasena Hettiarchchi
Secretary, Ministry of Urban Development, Water Supply & Drainage



MESSAGE FROM THE CHAIRMAN NATIONAL WATER SUPPLY & DRAINAGE BOARD



It is indeed a great honour and privilege to participate for the inaugural Symposium on Research & Development Study of NWSDB. This is a multi-disciplinary organization and many professionals are working as a team to provide safe drinking water to the entire nation.

The government's vision is to provide safe drinking water to the entire nation by 2025.

NWSDB is serving to all urban areas including town centers and provides technical support to rural communities for the improvement of water supplies.

Therefore, our professionals should carry out continuous researches on water quality and technological improvements in order to serve these communities better especially to find solutions to eradicate Chronic Kidney Disease (CKD).

I wish all the success to the Research and Development Study Symposium

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

MESSAGE FROM THE GENERAL MANAGER NATIONAL WATER SUPPLY & DRAINAGE BOARD

It is indeed my pleasure to address you on the occasion of the inaugural Symposium on Research a Development Studies.

The Research & Development Section of National Water Supply & Drainage Board was established in this year 2000 and from there onwards is has been carrying out several Research & Development works. Similarly NWSDB employees complete Post Graduate and Masters programmes locally and internationally.



Therefore, this will be a great opportunity to all the NWSDB employees to present their findings of their day to day works.

I hope that our professionals will continue this research culture in the organization as only then it will help the organization in the long run.

Finally I would like to appreciate the Research & Development Section and the Steering Committee for all their hard efforts to make this occasion a success and earnestly request you all to join hands together to continue this culture in the organization and develop the water and sanitation situation in the country.

Eng. B.W.R. Balasuriya
General Manager
National Water Supply & Drainage Board

MESSAGE FROM THE SYMPOSIUM CHAIR



It is my great pleasure to welcome you all to the “Research and Development Study Symposium 2015” of the NWS&DB which brings together experts and professionals from within the NWS&DB as well as from outside organizations. This year, the initial symposium is held and the Board expects to continue having this symposium annually in parallel with the “World Water Day” celebrations.

I expect this event will bring along over 400 participants to discuss and share the experience gained on water and waste water sector. I anticipate that the Symposium will enrich the mind of the attendees with knowledge as a result of networking, sharing ideas and learning from each other.

Eng. G.A. Kumararathna
Additional General Manager (Sewerage)
Symposium Chair

SUMMARY OF PAPERS

#	Theme	No. of Papers
01.	Water Safety Plans	04
02.	Water Quality Surveillance	04
03.	Water & Wastewater Treatment	04
04.	Organizational Improvements	04
05.	Resource Optimization	04
06.	Water Resource Management	04
07.	Social Impacts/Risk Management	04
08.	Operational Efficiency Improvements	04
Total Accepted Papers		32

HALL NO.01 - EMPIRE BALL ROOM

Time	Paper Name	Author
Theme 1 - Water Safety Plans		
Chair	Prof (Mrs). N.Rathnayaka	
Co-Chair	D.S.D.Jayasiriwardana	
10.45 - 11.00	Hazards identification, Risk Assessment and Analysis in Catchment and Treatment to implement the water safety plan:A Case Study in Kandy - South Water Treatment Plant	Dr. S. K.Weragoda
11.00 - 11.15	Identification of Associated Risks in the Drinking Water Distribution Systems Due to Low Water Demand using Hydraulic Models of the Initial Years after Commissioning the Panahaduwa Zone in Udawalawa WSS	N.A. L.Amarasena
11.15 - 11.30	Water Safety Plans for Small Communities in Sri Lanka	Sumitha Sumanaweera
11.30 - 11.45	Design and Construction of Low Cost Package Treatment Plant Using Poly Ethylene (PE) Tanks	G. G. N. Gunawardena
11.45 - 12.00	Discussion	
12.00 - 13.00	Lunch	

Time	Paper Name	Author
Theme 2 - Water Quality Surveillance		
Chair	Prof. Priyani Paranagama	
Co-Chair	N. M. S. Kalinga	
12.00 - 12.15	Surface Water Quality Assessment along the River Ma Oya and its' Effects on Water Treatment for Drinking	Darshani Ilangagedara
12.15 - 12.30	Heavy metal contamination levels in Kelani River	Jayala L. P. R. Wijesinghe
12.30 - 12.45	Evaluating Best Practices to control Residual Chlorine, THM and Coliforms in a Water Distribution System: A case study on Kandy South Water Distribution System	Harsha K.Abeykoon
12.45 - 13.00	Catchment Management as an Option for Water Quality Improvement	P.V. Ranasinghe
13.00 - 13.15	Discussion	
13.15 - 14.15	Lunch	

SYMPOSIUM PROGRAMME

HALL NO. 02 - REGENCY HALL

Time	Paper Name	Author
Theme 4 - Organizational Improvements		
Chair	K. L. L. Premanath	
Co-Chair	W.A. Sriyani	
10.45 - 11.00	Web Based Training Information Management System (TIMS) for National Water Supply & Drainage Board	Shiranthi R. Geegana Baduge
11.00 - 11.15	Water Quality Calculation and Management System	H. M. B. NJayasinghe
11.15 - 11.30	Developing an Overall Performance Indicator for National Water Supply Service in Sri Lanka	Karunasena Jayawikrama Arachchi
11.30 - 11.45	Importance of Endurance Test of Water - Work Products	P H Sarath Gamini
11.45 - 12.00	Discussion	
12.00 - 13.00	Lunch	

Time	Paper Name	Author
Theme 5 - Resource Optimization		
Chair	Prof. Ajith de Alwis	
Co-Chair	Gerad Fernando	
12.00 - 12.15	Investigation on Energy Conservation Potentials and Benchmarking for Drinking Water Supply Schemes	Lalith Wijesinghe
12.15 - 12.30	Wastewater Reuse as an Environmentally Sound Technology - A case study on Sustainable Wastewater Reuse Strategy Implemented in Badulla District, Sri Lanka	Kumuduni N. M. Hatiyaldeniya
12.30 - 12.45	Energy Conservation Potential for Water Treatment System	Kalaimathy S. N.
12.45 - 13.00	Model Estimation of Dynamic Surface Runoff in Urban Drainage Areas Consisting of Infiltration facilities	Primal Jinadasa
13.00 - 13.15	Discussion	
13.15 - 14.15	Lunch	

HALL NO.01 - EMPIRE BALL ROOM

Time	Paper Name	Author
Theme 3 - Water & Wastewater Treatment		
Chair	Prof. Mahesh Jayaweera	
Co-Chair	S. G. Jayawardana	
14.15 - 14.30	Dosing of proper oxidizing agents as pre-treatment to Kalatuwawa water to reduce the Trihalomethane (THM) formation in drinking water	Jayalal L. P. R. Wijesinghe
14.30 - 14.45	Iron and Manganese Removal in Ground Water Using Iron Bacteria	Naina Maraikkar Abdul Matheen
14.45 - 15.00	Disposal of water treatment plant waste sludge: Trials in brick manufacture	W. K. Illangasinghe
15.00 - 15.15	Coagulation for SWRO Pretreatment: Eliminating SWRO Bio-fouling Potential	M. T. A. Bawa
15.15 - 15.30	Discussion	
15.30 - 16.00	Tea	

Time	Paper Name	Author
Theme 6 - Water Resource Management		
Chair	M. Wickramage	
Co-Chair	R. S. C. George	
16.00 - 16.15	Water Sharing and Conflicts between Kilinochchi and Jaffna Districts: A Critical Evaluation of Iranaimadu Water Treaty	Balakumary lynkaran
16.15 - 16.30	Evaluation of Water Allocation Models, Case Study: Menik Ganga River Basin, Sri Lanka	Sobana S. D. Tennakoon
16.30 - 16.45	Effect of change in land use on surface water resources: Case study in Badulu oya catchment	W. G. Chathura Sanjeewa
16.45 - 17.00	Innovative methods for micro catchment conservation of community water supply schemes; A case study from Kandy District	Mangala Rajapaksa
17.00 - 17.15	Discussion	
17.30	Way forward	D. S. D. Jayasiriwardana

SYMPOSIUM PROGRAMME

HALL NO. 02 - REGENCY HALL

Time	Paper Name	Author
Theme 7 - Social Impacts/ Risk Management		
Chair	Prof. Sunil Chandrasiri	
Co-Chair	A. H. Gunapala	
14.15 - 14.30	Innovative Flood Protection approach using remote sensing and GIS techniques	M. S. M. Rizwan
14.30 - 14.45	Social Exclusion & Its Impact on Poverty, a Case Study of Urban Poor Communities in Colombo	Saumya N. Jayasooriya
14.45 - 15.00	Sociological analysis of the influence of media on water crisis in Sri Lanka	S. D. R. Tennakoon
15.00 - 15.15	Socio Economic Benefits of Individual Water Connections for Underserved Settlements in Colombo City	W. B. G. Fernando
15.15 - 15.30	Discussion	
15.30 - 16.00	Tea	

Time	Paper Name	Author
Theme 8 - Operational Efficiency Improvements		
Chair	K. R. Devasurendra	
Co-Chair	D. U. Sumanasekara	
16.00 - 16.15	Reducing Non Revenue water through changing attitudes of employees	Chandrika K. R. Liyanage
16.15 - 16.30	Managing project team communication process of building projects	U. D. M.D. Ruwanpura
16.30 - 16.45	Effective Utilization of Water Utility Geo-Data base for Day to Day Operation & Maintenance Activities of NWSDB	Dharmadasa W. Kankanamge
16.45 - 17.00	Conservation of water through procurement of quality goods & services in the implementation & maintenance of projects in water sector	Sriyani Munasinghe
17.00 - 17.15	Discussion	
17.30	Way forward	

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