

REDUCING NON- REVENUE WATER TO IMPROVE PIPE BORNE WATER SUPPLY IN PANADURA - HORANA REGION

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“This dissertation was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfilment of the requirements for the Master of Science in Construction Project Management”

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June 2019

Declaration

“I declare that this is my own work and this report does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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Acknowledgement

May this be a gratitude for those who offered me encouragement, valued cooperation, advices and assistance for achieving my objective.

It is my foremost duty to give special thanks to my supervisor Dr. Bhadranie Thoradeniya for the valued guidance and support offered with her busy schedules.

I pay my sincere thanks to the Construction Management Unit of the Department of Civil Engineering, University of Moratuwa for organizing Construction Project Management course which is very useful for young engineers engaged in the emerging infrastructure projects in Sri Lanka.

I would like to thank the staff of the Construction Project Management Unit of the Department of Civil Engineering, all those who motivates and helped me in several ways to complete my research.

I would like to thank all members of National Water Supply & Drainage Board for guiding me to develop my career. Further I would like to thank all Heads of Department of National Water Supply & Drainage Board for having placed their trust and assigned me with a work load that provided me with the opportunity to obtain a wealth of knowledge on Non- Revenue Water reduction in the Panadura – Horana Region.

Ultimately, I make this an opportunity to appreciate each and every person who gave their assistance in every mean to achieve successful completion of this research.

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Abbreviations

AWWA	American Water Works Association
CARL	Current Annual Real Losses
CI	Cast Iron
DI	Ductile Iron
DMA	District Meter Area
ILI	Infrastructure Leak Index
IWA	International Water Association
MIS	Management Information System
MNF	Minimum Night Flow
NRW	Non- Revenue Water
NWS&DB	National Water Supply & Drainage Board
PE	Poly Ethylene
PVC	Poly Vinyl Chloride
RSC(W-S)	Regional Support Centre (Western-South)
UARL	Unavoidable Annual Real Losses
UFW	Unaccounted for Water
WHO	World Health Organization

Abstract

Panadura -Horan water supply scheme is the second oldest water supply system in Sri Lanka and have many issues with old deteriorating pipes. Amongst them, Non-Revenue Water (NRW) is the most affecting problem as it shows a high value of 32%. In view of various reasons such as lack of resources, lack of knowledge and insufficient time etc., no proper management system had been introduced at Panadura -Horan water supply scheme to reduce NRW so far. Without proper NRW management the system is not able to sustain its services or cover all population with available water source.

The aim of the research is to propose strategies that would help to minimize the NRW quantities and improve pipe borne water supply in Panadura - Horana region. A sub zone from Panadura Region was selected for the purpose of this study, where the existing issues in the water supply system are identified and methodologies are proposed in reducing NRW component to a more manageable level.

Under field study, initially the main causes of NRW are identified while paying more attention to the most significant causes. After studying various strategies part to whole method was selected as the most appropriate strategy to reduce NRW in the selected sub-zone.

Further, this study on water loss management, shows that fixing of responsibility with proper directions and commitment interest with awareness of all staff members top to bottom is important to ensure positive results and to provide reliable and customer satisfactory service.

The methods adopted for water loss management are different from country to country city to city and place to place depending on factors such as the condition of infrastructure, maintenance practices, resource availability and institutional framework etc. The strategies developed for water loss management for Panadura – Horana region could be applied in similar systems of developing countries.