

RATIONALIZED RESOURCE ALLOCATION FOR IMPLEMENTING WATER SAFETY PLANS

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DECLARATION OF THE CANDIDATE & THE SUPERVISOR

I declare that this is my own work and this dissertation 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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The above candidate has carried out research for the Masters Dissertation under my supervision.

Signature of the supervisor

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ABSTRACT

Water Safety Plan (WSP) is the most credible management tool to achieve water safety worldwide. This study looks into prioritization of risks and optimizing resource allocation for implementing WSPs with multiple stakeholders and multiple domains having no mutual accountability and line of hierarchy. The study methodology was in the form of a descriptive and interpretative case study involving three levels; academic, national and sub national. These levels respectively served the targets of studying similar research, understanding policy and decision making environment and analysing grass root level dynamics in implementing WSPs by focusing on Eheliyagoda water supply scheme under NWS&DB. Both quantitative and qualitative data, belonging to multiple categories, was associated.

The analysis showed that the risk-reassessment and improvement plan of WSP need critical revisit beyond semi – quantitative risk matrix method. Only the water supplier (NWS&DB) had incorporated accountability in the WSP while other stakeholders were just collaborating. Standard risk ratings alone were not rational enough to justify strategic decisions on allocating limited resources and instead it might lead to decisions based on induced impressions. It seems to make decision makers defensive even within the domains with accountability while other stakeholders are not convinced on dedicating resources for water safety which may not be under their direct mandate. It was found that graphical interpretation of risks & hazards across all the water supply elements followed with hazard quantification was much convincing in prioritizing risks. Introducing bottleneck analysis to WSP could successfully incorporate the influence of prioritized risks on the coverage of services thus rationally showing where to prioritize resources. Bottlenecks were seen in incorporating consumer element, creating demand for water safety and rationalized budgeting. It was recommended that the guidelines may assign the catchment element to accountable stakeholders other than water suppliers together with demand creation and communication methods.

Key words: multiple stakeholders, multiple domains, accountability, resource allocation, hazard quantification, bottleneck analysis, coverage of services

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LIST OF ABBREVIATIONS

CEA	– Central Environmental Authority
CEA	– Cost Effective Analysis
DRD	– Drinking Water Directive
GND	– Grama Niladhari Division
HACCP	– Hazard Assessment and Critical Control Points
INGO	– International Non-Governmental Organization
MDGs	– Millennium Development Goals
MoWSD	– Ministry of Water Supply and Drainage
NGO	– Non Governmental Organization
NVZ	– Nitrogen Vulnerable Zones
NWS&DB	– National Water Supply and Drainage Board
RA	– Risk Assessment
RDHS	– Regional Director of Health Services
RRA	– Risk Re-Assessment
RRI	– Rubber Research Institute
RSC	– Regional Support Centre
SDWA	– Safe Drinking Water Act
SOP	– Standard Operating Procedures
SWOT	– Strengths, Weaknesses, Opportunities and Threats
UNICEF	– United Nations Children’s Fund
USEPA	– United States Environmental Protection Agency
USLE	– Universal Soil Loss Equation
WHO	– World Health Organization
WSP	– Water Safety Plan
WSS	– Water Supply System