Impacts and Methods to Minimize the Non-revenue Water that Happens on the National Water Supply System

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Non-Revenue Water can be defined as unbilled water. This NRW loss is becoming a huge problem to the world. Because this loss of treated water is a heavyeconomical loss to the governments. Preparing acmodel to predict the NRW losses, identifying the reasons and finding solutions to overcome those reasons are the main objectives of this study. Reducing the NRW losses and preparing a model for NRW loss is the main aim of the research. In this research Galle Municipal area was selected as the research study area and 5-year period data was used for the research. Then the types of reasons for NRW losses were clearly identified and the amounts of different type of losses were calculated. The main identified reasons for the NRW loss were pipeline leakage losses, illegal water consumption, and transition loss. Then separate were prepared models for separate identified reasons. Then these were combined and the model for the NRW loss was taken. Subsequantly solutions were given for overcoming these reasons. The solutions includeincreasing people's awareness about the NRW loss, replacing older pipelines, laying pipelines with correct procedures, and giving punishments for the illegal water users. By modelling a model for the NRW loss, the NRW losses for the future years can be forecasted. Using the forecast details of the NRW loss precautions to reduce the NRW loss can be taken.

Keywords: Non-revenue water, Leakage losses, Illegal water consumption loss