

Water Safety Plan for Dehigolla Water Supply System

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Abstract

Absolutely pure water does not exist in nature. Organizations such as NWS&DB provide safe water from natural sources with proper treatments. To ensure the satisfaction of consumers they are doing operational and maintenance projects of water supply schemes through Water Safety Plans. Dehigolla is a small supply scheme which is monitored by NWS&DB. This site was selected for the research and safety plan was developed. Research has been started based on the guidelines given by WHO for Water Safety Plan. Two field visits were conducted for sample collection, data collection and sanitary survey. Sample points were selected in between the catchment and consumer which is divided into three locations (i) Raw water at intake, (ii) Treated water at collecting chamber, (iii) Distributed water at household. Information gathered was used in the systems assessment part of the water safety plans. Walk through survey was carried out in the concerned area and discussions with the stake holders were held regarding the history of intake, distribution and health risks. Water quality data, sanitary survey data and walk through survey data were assessed and interpreted for hazard identification and risk management. Six component water safety frame work was prepared. The components include (i) Description of the existing water supply (ii) Hazard analysis via water quality monitoring (iii) Hazard identification (iv) Establishment of corrective actions (v) Establishment of record keeping and (iv) Verify the effectiveness of the water safety plan. Investigating the water quality of supply system at each sampling points formed a major part of the systems' hazard identification. The investigation was coupled with complementary sanitary surveys of the supply and storage tanks at household. As a result of water quality analysis problems are encountered with higher turbidity, coliform content and iron content. According to the results, major outcomes of the survey demonstrate that existing scheme was providing unsafe water because of poor construction of intake and distribution network, absence of protection for supply system and unawareness on the water quality. Therefore, construction developments and future maintenance is needed for Dehigolla water supply system.