

Bacteriological Risk Analysis of Rural Water Supply Schemes In Western Development Region of Nepal

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The study assessed the bacteriological risk of rural water supply schemes. The six different Districts of Western Development Region were selected which represents all three major ecological regions of Nepal. The study covered total 68 schemes focusing on the rural drinking water supply of Gorkha, Kaski, Lamjung, Nawalparasi, Syangja and Tanahu districts of Nepal. Water Samples were collected from source, reservoir tank, tap stand and household level. The bacteriological water quality was analyzed by using Membrane Filter Method to detect the presence and its risk level of Fecal Coliform to human health in study area. The study mainly focuses on two part of the study; laboratory analysis for water samples and questionnaire survey. The study findings showed that, the water when travels from source to distribution line, and to household, density of the Fecal Coliform was found to increase. Total water samples collected were 497, out of which 109 were from source, 116 from reservoir tank, 136 from tap and 136 from household level. The water quality in terms of bacteriological parameter such as Fecal Coliform showed variation of the values in the different points of water distribution. The study revealed water supplied in rural drinking water schemes do not meet the WHO drinking water standard and maximum population were under high risk of fecal contamination.

Keywords: Bacteriological risk analysis, Rural water supply schemes, Western Development Region of Nepal.