

ABSTRACT

This report has been prepared after a successful assessment of water quality from various sources in Njathaini village in Zimmerman location in Nairobi County. The principal objective of this study was to assess the quality of domestic water used Njathaini village and thereafter ascertain presence or absence of water pollution in the mentioned water sources. This was achieved by investigating the various water quality parameters such as pH, turbidity, colour, taste and odour, chloride, hardness, fluoride, total solids and biological characteristics, comparing them with the set World Health Organisation standards for drinking water quality, and hence determine the presence or absence of water pollution

The study involved collection of data (water samples) from various groundwater and surface water resources identified that provide water for domestic use in the study area. These sources included three wells (Kwa Mwaura well, New way well, Kianda well), river water (River Njathaini), dam water (Makui dam) and tap water. Sampling processes was done as per the procedures stated in "Standard Methods for the Examination of Waters and Wastewaters" and 'Water Quality Sampling Manual (Appendix A). The water samples were later taken to the University of Nairobi Environmental Health Engineering Laboratory for examination where key physical, chemical and biological parameters of water were tested.

The analysis of the results was done based on acceptable limits specified by the WHO guidelines on water quality and Kenya Standards of Drinking water (KS 459-1:2007). Recommendations were then drawn from these findings to complete this report. From the findings, all the mentioned sources had parameters of pH, Alkalinity, Chlorides and Fluorides within the acceptable limits specified by the WHO guidelines.

However, for Kwa Mwaura well and New way well water characteristics such as colour, conductivity, Iron, total hardness and MPN exceeded the recommended value. This means that the water is unaesthetic, requires a lot of soap to lather and above all, it is unsuitable for drinking as it portrayed evidence of bacteria. For Kianda well, parameters such as colour, Turbidity, conductivity, Iron, total hardness and MPN exceeded the recommended value. This means that the water is unaesthetic, requires a lot of soap to lather and above all, it is unsuitable for drinking as it portrayed evidence of bacteria.