

EARLY WARNING BULLETIN ON GROUNDWATER QUALITY IN MOMBASA, KENYA, DECEMBER 2003

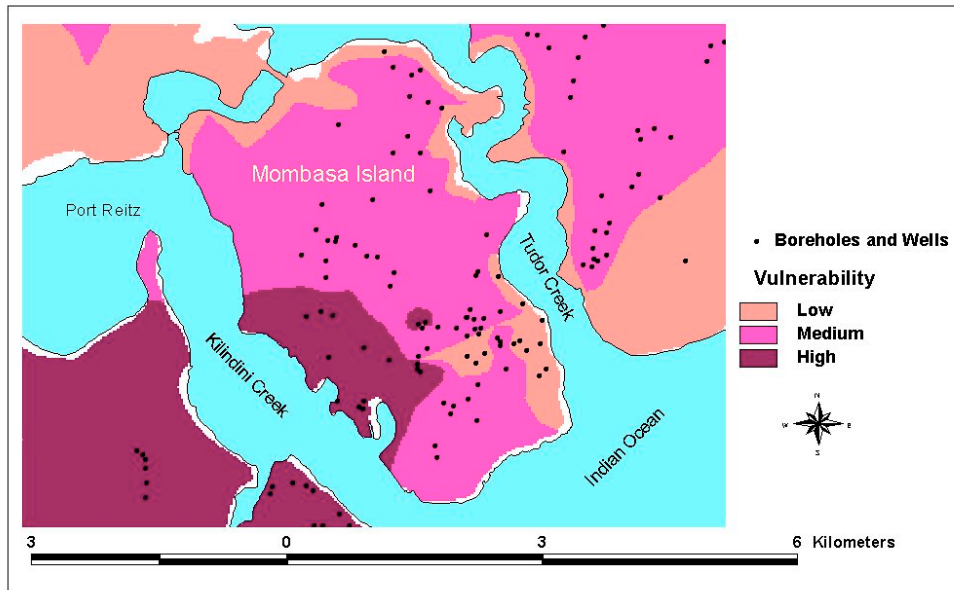


Fig. 1. Vulnerability to pollution of water supply aquifer for Mombasa Island

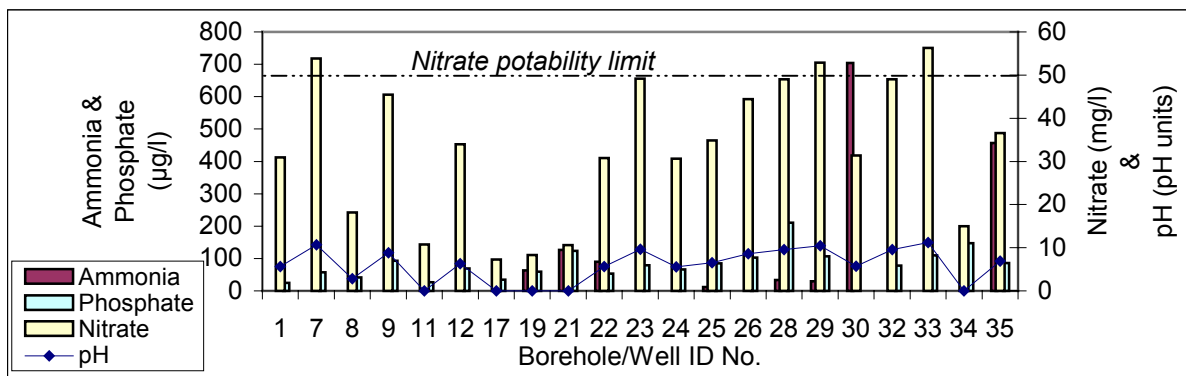


Fig. 2. Inorganic nutrient levels and pH in groundwater



Fig 3. Microbial contamination levels of groundwater

A preliminary assessment of the vulnerability of the Mombasa Island water supply aquifer indicates that the southwestern part is the most vulnerable to pollution (Fig. 1). The area is characterised by a relatively shallow unconfined aquifer in permeable quaternary sands. Existing water quality data indicates that while nitrate concentrations are generally within acceptable levels, most of the wells and boreholes, especially those located in the high density residential areas, are contaminated with faecal matter and the water is of unacceptable potable standard (Fig. 2 & 3). The contamination of the groundwater is primarily attributed to the sewage disposal practice of the use of pit latrines (> 70 %) and septic tank / soakage pit systems.