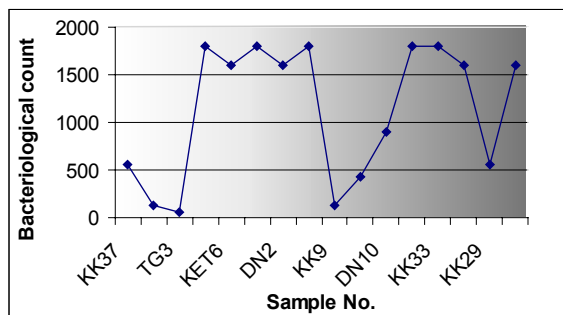
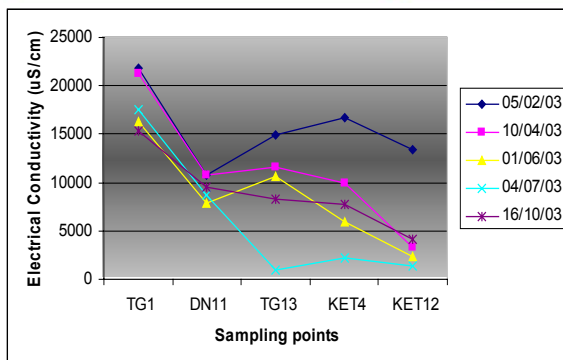
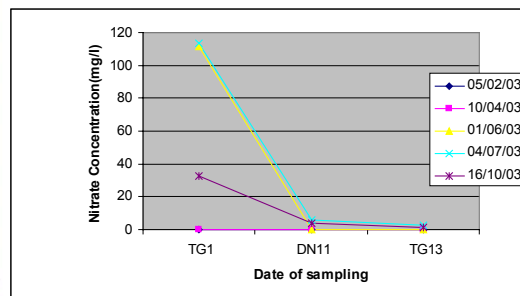
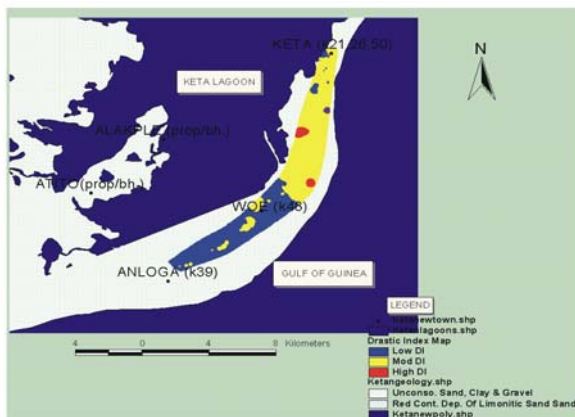




UNEP/UNESCO/UN-HABITAT/ECA
ASSESSMENT OF POLLUTION STATUS AND
VULNERABILITY OF WATER SUPPLY AQUIFERS OF
KETA, GHANA

EARLY WARNING BULLETIN



The drastic index map shows that the most vulnerable areas to pollution are peripheral and these may be where diffuse pollution from sewage is concentrated. Also, some of these areas are depressions (lower in elevation than the surrounding areas). Most parts of the Tegbi area down to Keta are moderately vulnerable to pollution based on the indices used in computing the drastic index. However, the main pollutants have the capacity to spread through the monotonous sandy surface soils and aquifers and spread liquid waste to the aquifers in the area. The nature and concentration of the buildings and the nature of the pollutants do facilitate the pollution process and as such make the aquifers very vulnerable. The low conductivity values in the Keta area are concentrated in Kedzi Kofe and some areas around Tegbi whilst higher conductivity values are concentrated at Keta, an area less than 1m above sea level. However, both low and high conductivity values are observed at Tegbi and Dzelukofe. It is therefore obvious that in locations where conductivities are high in the dry season, the lowering of the water table as a result of evaporation and lack of direct recharge also tends to increase the concentration of the ions, thus increasing their electrical conductance. The increased irrigation agricultural activities and the attendant salinisation of the soil can also explain high conductivities during the dry seasons. In well TG1, the nitrate concentration varies with season and is very high in the wet season. Those areas with good sanitation and as such low nitrate content still maintain their concentrations. This goes to confirm the fact that the wells with high nitrate concentrations are those with very poor hygiene and sanitation which is common in the Keta area. The high bacteriological count in the shallow ground water in the Keta area indicates that the water is heavily infested with pathogens which vary from *Citrobacter freundii* to *Klebsiella pneumoniae*. These pathogens are sources of some of the water borne diseases in the area, especially during the wet, rainy season and all efforts are being invested to educate the people to place hygiene and sanitation at the top of their activities.