

# Groundwater potentials in Naivasha: case study Naivasha East area, Kenya

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## Abstract:

The report describes an area of about 1square km located in the Rift valley part of Kenya and about 100Kms east of Nairobi city. It's bounded by latitudes 36020'E to 36030'E and by longitudes 0030'S and 0050'S. The area consists of numerous hills and valleys as well as plateau like the Kinangop plateau. The area is sparsely populated mainly on the northern side due to low lands of less production and also the bushy ranches and low rainfalls. Also high temperatures are a major reason for the low population density. Accessibility in the area is good apart from some areas like Eburru, Malewa east and other parts on the north eastern part of the map i.e. Turasha and Magogo areas. The area is well served by one major highway; Nairobi-Nakuru road and some other feeder road roads like the Naivasha-Kinangop road. Also there are some numerous all weather roads which serve the interior small towns like Murungaru, kitiri, Matundura and Kirima as well as Maraigushu, Njabini and Engineer area The rocks exposed consist of tertiary sediments and pyroclastic in most part of the area. Trachytic tuffs are found to the southern side of the area in Kayole and Nyamathi areas and some sediment on every river channel. Several rock units are observable which to some extent affect the groundwater potential of the area. The area experiences some shortage of pure clean water which it seems to be analogous to the fact that the area consists. Places like Kinamba and Kayole areas water is mainly sold at a very high price due to its shortage. This is not because the area cannot yield enough water but little prospecting has been done which led to the thought of assessing the productivity of this area. The describes how to come up with areas with higher yields that can be used to produce well fields that can yield water to be even channeled to other areas with less productivity. This is achieved by analysis of the already drilled boreholes yields and specific capacity and drawdowns. We contour or prepare a contoured map using transmmisivity of each borehole. The contoured map will show areas with higher transmmisivity hence higher yields. These areas can be proposed to the relevant organizations for the production of well fields. Later we recommend the establishment of these fields hence reducing the water scarcity in these areas.