

Abstract

With the rapidly growing population in Kenya at an estimated rate of 3.63% per annum and the resultant high rate of urbanization coupled with the fact that 75 % of the country is either arid or semiarid, the proper management and therefore planning for water resources development is vital in order to maintain the use of water on a sustainable basis. The proper management and planning for the use of water resources calls for the evaluation of the water resources available within the country and the degree to which they can be exploited. This paper examines the magnitude of the problems of drought (water deficit) and floods (water surplus) within two catchment areas in Kenya: the Nyando and Tana. It is shown that, apart from meteorological and/or climatological factors, man has greatly influenced the severity of the two events within the study catchments. The anthropogenic influences such as large-scale deforestation programmes, damming of the rivers, urbanization and other development programmes, have to a large extent affected the return periods of these two events within the catchments. Various programmes that could be adopted in reducing the magnitude and/or severity of the two events have been suggested. Drought has been identified particularly with eastern Kenya which is comprised mainly of semiarid low-lying land, and the pastoral areas of northern and southern Kenya. Recently attention has been paid to climatic variability in the dry areas near Lake Victoria, settlement schemes in the Rift Valley and the coast province where too much rainfall and poor soils compound the problems. Flooding is particularly characteristic of western Kenya in the Lake Victoria drainage basin, the Lower Tana and Athi River reaches and more recently the city of Nairobi is showing increased vulnerability to floods.