When the Kenyan Vertisols are classified following the Soil Survey Staff (1975) 'Soil Taxonomy', the only two subgroups (*Typic Pellusterts* and *Typic Chromusterts*) defined for areas with ustic moisture regime have been found to be inadequate. This is taking into consideration both the mapping and the management requirements of these Vertisols. In this connection therefore, over 200 representative Vertisol profiles in the important irrigated areas of Kenya were analysed.